

Senate Hearings

Before the Committee on Appropriations

Department of the Interior and Related Agencies Appropriations

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Part 1 (Pages 1-1032)

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Bureau of Mines

Geological Survey

Secretary of the Interior

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INDIAN CLAIMS COMMISSION

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DEPARTMENT OF THE INTERIOR AND RELATED AGENCIES APPROPRIATIONS FOR FISCAL YEAR 1974

MONDAY, MARCH 12, 1973

U.S. SENATE, 1
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, D.C.

The subcommittee met at 10 a.m., in room 1114, Everett McKinley Dirksen Office Building, Hon. Alan Bible (chairman), presiding.
Present: Senators Bible and Stevens.

SMITHSONIAN INSTITUTION

Justification

Organization and Performance

Founded in 1846, the Smithsonian Institution is an independent establishment devoted to public education, basic research, and national service in the arts, sciences, and history. Centered on the Mall in Washington, D. C., it also operates major facilities and activities elsewhere in Washington, across the country, and overseas.

One of the world's leading research centers, the Smithsonian is also the world's largest museum complex, attracting, with the Zoo, upward of twenty million visitors yearly as well as additional millions who view traveling exhibits. It possesses more than 70 million objects and specimens, about three percent of which are on public display and the rest used for basic research.

This complex includes as major components four history and science museums: the combined National Museum of Natural History and National Museum of Man, the National Museum of History and Technology, and the National Air and Space Museum. A fifth, the National Armed Forces Historical Museum Park, is in the planning stage under an advisory group established by Congress. There are six art museums: the Freer Gallery of Art, the separately administered National Gallery of Art, the National Collection of Fine Arts, the National Portrait Gallery, the Renwick Gallery, and the Cooper-Hewitt Museum of Decorative Arts and Design in New York. A seventh, the Hirshhorn Museum and Sculpture Garden, is being constructed on the Mall. Each of these museums has or plans extensive research and public service activities.

There are other major components of the Smithsonian in Washington. The Radiation Biology Laboratory plays a unique role in the study of the effects of solar radiation. The National Zoological Park, with facilities in Rock Creek Valley, annually attracts more than four million visitors. The national cultural center, the John F. Kennedy Center for the Performing Arts, is a separately administered bureau of the Smithsonian under a separate Board of Trustees. The Smithsonian's other performing arts activities cover a wide spectrum--puppet shows

to classical concerts to a college drama festival. A Festival of American Folklife is presented each year on the Mall with representation from every region of the country and an annual attendance of over half a million persons.

Also in Washington, the innovative Anacostia Neighborhood Museum operates in a low-income area of the city in cooperation with the local community. There is an oceanographic sorting center at the Washington Navy Yard. In addition, a center for advanced study, the Woodrow Wilson International Center for Scholars, is underway at the Smithsonian.

Smithsonian facilities and activities stretch across the nation and the world. Chief among these installations elsewhere is the Smithsonian Astrophysical Observatory in Cambridge, Massachusetts, which itself operates major installations in other parts of the United States and field stations in several nations around the globe. Other national and international facilities include the 350-acre Belmont Conference Center in nearby Maryland; the 2,000-acre Chesapeake Bay Center for Environmental Studies; centers in New York, Boston, Detroit, and San Francisco supporting the work of the Washington-based Archives of American Art; an oceanographic sorting center in Salammbu, Tunisia, whose work parallels the programs of the Institution's oceanographic center in Washington; and the highly regarded Tropical Research Institute centered in Panama.

A wide range of programs is conducted in cooperation with other institutions, several dozen universities, and government agencies here in the United States and on every continent. The Institution offers its facilities and intellectual resources for research and education, from the elementary to postgraduate levels, in hundreds of areas of Smithsonian scientific and cultural interest.

More than two thousand scientific expeditions to the corners of the world have been sponsored or participated in by staff members over the decades. The Smithsonian participates in continuing research projects in many nations abroad, in some cases using United States Government surplus commodity funds for this purpose.

For more than a century, the Smithsonian has circulated a wide range of research and other publications here and abroad. Today, a number of its components are engaged in varying aspects of publication, distribution, exchange, and information-retrieval services. Communications activities also include radio, television, and motion picture programs.

The Smithsonian Associates, a dues-paying membership program set up in 1965, has about 10,000 members in the Washington area. In other parts of the nation, more than 350,000 members receive the monthly magazine Smithsonian.

Management Effectiveness

The management of this complex organization places unusual demands on identifying, implementing, and reviewing needed management initiatives. In recognition of this, over the past year the Smithsonian has taken the following steps:

1. Within the Office of the Secretary it has created a focus for identifying and reviewing emerging issues which impact on the longer-range development of the Institution's programs.
2. Mechanisms have been established whereby bureau and office personnel are provided fuller opportunities to participate constructively in Institutional decision-making.
3. Investigative work has been assigned to key research, technical, and administrative teams in selected areas of activity. The objective of the assignments is a thorough assessment of important program areas with high public significance; such as, exhibits preparation, protection of the National Collections, and general public services.

Through these and other efforts the Institution will ensure that its research, education, and other national service activities will be conducted effectively.

FY 1974 Budget Estimates and Objectives

For FY 1974 the Institution is requesting the following appropriations:

	FY 1973 <u>Appropriations</u>	Requested <u>Increase</u>	FY 1974 <u>Estimate</u>
Salaries and Expenses	\$51,633,000	\$ 4,805,000	\$56,438,000
Science Information Exchange	1,600,000	65,000	1,665,000
Special Foreign Currency Program	3,500,000	5,500,000	9,000,000
Construction and Planning	<u>18,689,000</u>	<u>13,381,000</u>	<u>32,070,000</u>
	\$75,422,000	\$23,751,000	\$99,173,000

Highlights of the budget requests are as follows.

A. "Salaries and Expenses"

<u>1972 Appropriation</u>	<u>1973 Appropriation</u>	<u>1974 Estimate</u>
\$44,701,000	\$51,633,000	\$56,438,000

This appropriation provides for the regular operating programs in the museums, galleries, zoological park, research laboratories, and other program units; for special projects of an Institution-wide nature; and for program support activities. This funding is allocated by major groups as follows (organizational allocation appears on pages A-2 through A-3):

	FY 1973 <u>Base</u>	<u>Increase</u>	FY 1974 <u>Estimate</u>
Science.....	\$18,162,000	\$1,585,000	\$19,747,000
History and Art.....	7,250,000	515,000	7,765,000
Public Service.....	2,087,000	174,000	2,261,000
Museum Programs.....	5,364,000	701,000	6,065,000
Special Programs.....	2,955,000	494,000	3,449,000
Administration, Protection, and Support...	7,379,000	620,000	7,999,000
Buildings Management.....	<u>8,436,000</u>	<u>716,000</u>	<u>9,152,000</u>
Totals	\$51,633,000	\$4,805,000	\$56,438,000

Major purposes to be served by the requested funding increase include:

--The projected higher costs of current employees caused by periodic step increases and by legislated pay raises for wage board employees (\$750,000)

--Research, aircraft and spacecraft restoration, and exhibits planning and preparation for the new National Air and Space Museum. Now under construction, the Museum is scheduled to open to the public in July 1976 (\$765,000)

--Support of basic science in the National Museum of Natural History and Smithsonian Astrophysical Observatory (\$200,000)

--Operations of the popular National Zoological Park (\$150,000)

--Collections documentation and preservation in the National Museum of History and Technology (\$150,000)

--Preparations for opening the Hirshhorn Museum and Sculpture Garden to the public in the spring of 1974 (\$150,000)

--Conservation of collections to guard against further deterioration and loss (\$100,000)

--Preparation of exhibits, scholarly projects, and national outreach activities for the American Revolution Bicentennial (\$1,000,000)

--Support of the general exhibits program in the face of a growing workload (\$300,000)

--Additional grants under the National Museum Act in behalf of the museum profession (\$100,000)

--Protection and security of buildings, exhibits, collections, and visitors and buildings maintenance and custodial operations (\$875,000)

--All other research, education, public service, administration, and support activities (\$265,000)

B. Science Information Exchange

<u>1972 Appropriation</u>	<u>1973 Appropriation</u>	<u>1974 Estimate</u>
\$1,600,000	\$1,600,000	\$1,665,000

A funding increase of \$65,000 is requested to help meet the essential costs of maintaining and developing data input on research in progress as a national information service to the federal and nonfederal research communities.

C. Special Foreign Currency Program

<u>1972 Appropriation</u>	<u>1973 Appropriation</u>	<u>1974 Estimate</u>
\$3,500,000	\$3,500,000	\$9,000,000

The need is to provide adequate support, without a drain on hard dollars, for overseas archaeological work, systematic and environmental biology, astrophysical and earth sciences studies, and museum programs. The development and expansion of regular programs, as well as the opening of important new research possibilities, especially in India, Poland, Pakistan, and Burma, have resulted in a rising demand for excess foreign currency funds by American institutions of higher learning. The FY 1974 request also urges funding to complete the United States contribution to UNESCO's international campaign to preserve the archaeological monuments in Nubia with one final payment of \$4,000,000 equivalent in "excess" Egyptian pounds.

D. Planning, Renovation, Restoration, and Construction

<u>1972 Appropriation</u>	<u>1973 Appropriation</u>	<u>1974 Estimate</u>
\$6,347,000	\$18,689,000	\$32,070,000

Included in the FY 1974 budget are three appropriation requests. An amount of \$3,850,000 is required for the National Zoological Park to permit construction of the major new lion and tiger exhibit; planning and design of parking, exhibit, and other visitor and staff services; and repairs to existing facilities. Funding of \$1,220,000 is sought for restoration, renovation, and improvement of other Smithsonian buildings and property, including the Mt. Hopkins Observatory. And, an appropriation of \$27,000,000 is requested to liquidate the balance of the contract authority provided in the FY 1973 budget for the construction of the National Air and Space Museum.

Details on each of these operating and construction programs appear in the following sections of this budget.

SMITHSONIAN INSTITUTION

STATEMENT OF S. DILLON RIPLEY, SECRETARY

ACCOMPANIED BY:

ROBERT A. BROOKS, ASSISTANT SECRETARY

CHARLES BLITZER, ASSISTANT SECRETARY FOR HISTORY AND
ART

DAVID CHALLINOR, ASSISTANT SECRETARY FOR SCIENCE

JULIAN T. EUELL, ACTING ASSISTANT SECRETARY FOR PUBLIC
SERVICEPAUL N. PERROT, ASSISTANT SECRETARY FOR MUSEUM PRO-
GRAMS

T. AMES WHEELER, TREASURER

RICHARD L. AULT, DIRECTOR OF SUPPORT ACTIVITIES

JOHN F. JAMESON, DIRECTOR OF PROGRAMING AND BUDGET

MICHAEL COLLINS, DIRECTOR, NATIONAL AIR AND SPACE
MUSEUM

THEODORE H. REED, DIRECTOR, NATIONAL ZOOLOGICAL PARK

DAVID F. HERSEY, PRESIDENT, SMITHSONIAN SCIENCE INFOR-
MATION EXCHANGE, INC.

JAMES BRADLEY, RESEARCH ASSOCIATE

BUDGET ESTIMATES

Senator BIBLE. The hearing will come to order.

This is the day set for hearing the 1974 budget estimates for the Smithsonian Institution. The Smithsonian is requesting a grant total of \$99,173,000, which is a substantial increase of \$23,751,000 over appropriations to date for 1973—about a 30-percent rise. The justification summary has been included in the record.

INTRODUCTION OF ASSOCIATES

Dr. Ripley, it is good to see you again. Will you introduce those with you on whom you may want to call for additional advice?

Dr. RIPLEY. Thank you very much, Mr. Chairman.

My principal witnesses and colleagues here this morning, Mr. Chairman, consist of Mr. Robert A. Brooks, the Assistant Secretary on my left; Mr. John Jameson, our budget officer, also on my left; Mr. Ames Wheeler, our treasurer, on my right; Dr. David Challinor and Mr. Charles Blitzer, assistant secretaries for science and history and art respectively; Mr. Julian Euell, acting assistant secretary for public service; and I have Mr. Paul Perrot, the assistant secretary for museum programs; and Mr. James Bradley, our old friend whom you know very well.

Senator BIBLE. Oh, yes, I know Mr. Bradley very well.

Dr. RIPLEY. And we may call from time to time on expert witnesses, bureau directors, or others to answer specific questions.

Senator BIBLE. Where is your astronaut? I don't see him.

Dr. RIPLEY. Mr. Michael Collins, Director of the National Air and Space Museum. And I have Mr. Richard Ault, the director of support activities; and you saw Dr. Theodore Reed. We have Dr. David Hersey, the president of the Science Information Exchange, also.

Senator BIBLE. Very well. You may proceed.

PREPARED STATEMENT

Dr. RIPLEY. It is my pleasure this morning to submit a statement, Mr. Chairman, for the record.

Senator BIBLE. Without objection, the full statement will be incorporated in the record. You don't need to read about the Smithsonian. I think I am reasonably familiar with it. It will all be made a part of the record. Your notable events in the past year—I think you ought to highlight those.

[The statement follows:]

Chairman and Members of the Committee:

We are grateful for this opportunity to present the Smithsonian Institution's program plans for the budget year 1974 and to review with your Committee our accomplishments and current activities.

Founded in 1846, our Institution is an independent establishment devoted to basic research, documentation, public education, and care of the national collections in the arts, sciences, and history. Centered on the Mall in Washington, D.C., it also operates major facilities and activities elsewhere in Washington, across the country, and overseas. One of the world's leading study centers, the Smithsonian is also the world's largest museum complex, attracting, with the National Zoological Park, some twenty million visits yearly as well as additional millions who view traveling exhibits. We have in our collections more than 70 million objects and natural history specimens, only a few percent of which are on public display. The rest are available for scholarly research by our own staff and many hundreds of visiting students, scientists, and historians. In addition, important research, not associated with collections, is performed in the fields of astrophysics, biology, and the environmental sciences. These public services have been made possible by your committee's continuing strong interest and support. We are most appreciative.

Notable Events of the Past Year

Our many contributions and accomplishments will be described in the course of our testimony today. In addition, a full statement of our program and financial operations appears in our annual report for FY 1972 Smithsonian Year, copies of which have been provided to the Congress. At this point, I would like to mention only a few recent events which illustrate the scope of our work and public involvement with the resources provided from public and private sources.

--Visitor attendance in FY 1972 to our buildings on and near the Mall was over 15 million, an increase of about 1,200,000 visits over the previous year. An additional 4 - 5 million visits were at the Zoo and some 50,000 persons came to the Anacostia Museum. It is estimated that approximately 75 percent of our visitors come from outside Washington, D.C. and the Metropolitan area. About 4 million persons viewed traveling exhibitions and many hundreds of student and professional visitors came to our astrophysical and biological research centers in Cambridge, Massachusetts, and Panama respectively.

--In the research area, we completed a monumental study of the Glass Mountain, Texas, fossil fauna, the largest and most complete fossil fauna in the world. We also produced the first star catalog of ultraviolet stellar magnitudes. This data was derived from the Telescope Experiment built by our Astrophysical Observatory and flown on NASA's Orbiting Astronomical Observatory II.

--Many significant new exhibitions have been presented to the public this past year. In the National Museum of History and Technology, the permanent Halls of Money and Medals, Graphic Arts and Printing, Stamps and the Mail, News Reporting (funded by a private donation), Photography, and the Special Exhibits Gallery now occupy

the area heavily damaged by fire in September 1970. This Museum also opened a pertinent and timely exhibition on American Productivity. At the National Portrait Gallery, the temporary exhibitions "Portraits of the American Stage 1771-1971" and "If Elected - Unsuccessful Candidates for the Presidency 1796-1968" received critical acclaim. Among the many outstanding exhibitions produced by the National Collection of Fine Arts were "The Religious Impulse in American Art, 1770-1900," "The National Parks and the American Landscape," and, at the Renwick, "Objects for Preparing Food." In the Arts and Industries Building, the Institution opened a major exhibit to educate the public in understanding drugs in our culture. Also in this building, the National Air and Space Museum presented new and exciting exhibits on Ballooning and a World War I fighter aircraft base. And I hardly need say how tremendously popular the Pandas have been at the Zoo.

--Important milestones for Smithsonian installations in the Capital were the final National Capital Planning Commission approvals of the Master Plan for the Zoo's redevelopment and of the design of the National Air and Space Museum building. I am pleased to report that work on this Museum is presently on schedule and below budget estimates.

--And, finally, I would like to mention the tremendous success of the Smithsonian Magazine. Subscriptions are projected at 400,000 for June 30, 1973, as compared with 308,000 a year ago. This is a remarkable performance for this three-year old, privately-funded venture. We are actively exploring additional ways, including television, to fulfill the Institution's educational potential.

Budget Requests for FY 1974

I would like now to summarize and highlight our budget requests for FY 1974. In total we are requesting appropriations of \$99,173,000, presented in several appropriation accounts:

(In thousands of dollars)

	<u>FY 1973</u> <u>Appropriations</u>	<u>Requested</u> <u>Increase</u>	<u>FY 1974</u> <u>Estimate</u>
Salaries and Expenses	\$51,633	\$ 4,805	\$56,438
Science Information Exchange	1,600	65	1,665
Special Foreign Currency Program	3,500	5,500	9,000
Construction and Planning	18,689	13,381	32,070
	<u>\$75,422</u>	<u>\$23,751</u>	<u>\$99,173</u>

This is a substantial budget request. Looking at each account, I would like to explain why these funds are relevant to national needs and important for FY 1974.

Salaries and Expenses

We are seeking an operating budget of \$56,438,000 for some 45 museums, art galleries, research laboratories, special programs, and supporting activities as detailed in our budget submission. This is an increase of \$4,805,000, or about nine percent on the FY 1973 base

of \$51,633,000. Of this increased amount, \$750,000 is to meet the anticipated costs of legislated periodic step increases and Wage pay raises for currently authorized levels of employment. The balance, a net amount of \$4,055,000, is for program improvement and development to meet the following Smithsonian objectives.

Meeting Mandatory Commitments

An amount of \$2,308,000 and 91 new jobs are essential in order to carry forward those important projects to which we are committed by Congressional authorization or direction. These commitments include the National Air and Space Museum, the American Revolution Bicentennial, and the Hirshhorn Museum and Sculpture Garden.

A major funding increase is required by the National Air and Space Museum to meet the Institution's commitment to open the new Museum on the Mall on July 4, 1976. In order to do this, it is imperative that research be undertaken and completed, collections documented and restored, and exhibits planned, designed, constructed, tested, and stored for later installation while the building is under construction. An amount of \$765,000 and 20 new positions are required for this effort.

With regard to the Bicentennial, we will contribute to commemorative activity across the Nation. We will also be a focal point for the Washington, D.C. celebration. We must be ready to meet official and public expectations of our performance. An increase of \$1,000,000 for a total program effort of \$1,754,000 is needed to continue the preparation of exhibits, scholarly projects, and national outreach activities which we have begun.

We anticipate opening the Hirshhorn Museum and Sculpture Garden in the Spring of 1974. Additional museum staff, as well as building maintenance, custodial, and protection personnel will be essential to meet this target date and to assure that the Museum can serve the public effectively after opening. An additional \$150,000 and 14 new positions are requested for the Museum's operations. The protection, maintenance, and custodial functions will require a further 57 positions and \$393,000.

Meeting these needs has our top priority.

Correction of Operational Support Deficiencies

We are seeking an additional \$1,202,000 and 88 new positions for a limited extension of a phased program we have discussed with you before. This is the correction of certain deficiencies in the stewardship of the national collections, in the maintenance and protection of existing buildings and facilities, and in the support of research. These funds by no means will solve the full range of operational support problems we have identified. They will help in certain critical areas.

The research effort throughout the Smithsonian in science, history, and art is the very important basic work from which come publications, exhibitions, and education programs of great relevance and practical applicability to the information needs of government agencies, colleges, universities, and others. With your support in previous budgets, we have begun to correct serious shortages of technicians, research

assistants, and funds for laboratory operations and field studies. This continues to be an important internal commitment. The FY 1974 budget contains a request for \$360,000 and 13 new jobs for the National Museum of Natural History, the Smithsonian Astrophysical Observatory, the Chesapeake Bay Center for Environmental Studies, and the Center for the Study of Man.

The documentation and care of the collections is a national responsibility that has received too little attention for too long. We need additional funds for such activities as the establishment in the National Museum of History and Technology of a collection inventory and management system that will tell us what we have and where it is for research purposes and to answer public inquiries. We must conserve objects in the collections to avoid deterioration and loss. We need to locate, document, and protect valuable archival materials for public reference. And we must augment with library reference resources the data associated with collections and research. An additional amount of \$330,000 and 13 new positions are requested for these needs.

And, finally, increased funding of \$512,000 and 62 new jobs are urgently required to maintain, operate, and protect buildings. Heavy visitor use, rising prices, threats to public safety, and an essential need to give more adequate preventive maintenance and custodial care to a valuable physical plant make this funding an important requirement. We have separately identified the Office of Protection Services in our budget request in recognition of its very important role in safeguarding our buildings, collections, and visitors.

Response to a Growing Public

A further \$776,000 and 27 additional positions are requested for our general exhibition, education, and outreach programs. These are the programs of greatest impact on the rapidly rising numbers of visitors to our museums, art galleries, and zoo, and to the museum public across the nation. We must not fall too far behind in attempting to meet these growing demands. This request includes such diverse but kindred activities as the care and exhibition of the animal collections at the National Zoological Park and the public program at the Renwick Gallery, which since opening about a year ago has had well over 200,000 visitors. It also includes our school tour and education program in our museums and galleries and the preparation of new exhibits and the maintenance and upgrading of older, worn exhibits for the pleasure and education of visitors.

The proposed budget also provides additional funding for such important outreach and national service activities as the Anacostia Neighborhood Museum, especially its exhibits training and production laboratory for inner-city minority group people; the Folklife Festival on the Mall which annually attracts over a half million persons; the Smithsonian Traveling Exhibition Service; the National Museum Act; and the research report and exhibits catalog publication program of the Smithsonian Press. Much of this effort is of direct benefit to those persons who cannot or do not visit our major museums or other buildings in Washington.

Program Administration and Direction

In the final category under "Salaries and Expenses," we are requesting an increase of \$299,000 and 16 positions for general program administration and direction to help manage and support a large and complex organization. These resources will be used for administration at the Institutional level, postage indicia costs and financial management, career training and employee development, internal audit, equal opportunity programs, mathematical analysis in support of research, procurement services, management analysis, and printing duplication services.

Science Information Exchange

The budget request for FY 1974 for the Science Information Exchange is \$1,665,000, an increase of only \$65,000 over the FY 1972 and 1973 levels, for this national information system on research in progress. This proposed budget will only cover the costs of the staff currently supported by Federal funds and the Federal portion of anticipated increases in primarily fixed operating expenses, such as building space and computer equipment rental. Our budget submission outlines a number of actions which the Smithsonian and the Exchange have taken to help correct the problems noted in the August 1972 General Accounting Office report regarding the completeness and timeliness of the Exchange's data base. As a result of our collective efforts, we expect an increase in project information input by those Federal agencies and others supporting research. Use of the Exchange is also growing as demonstrated by a steady rise in user charge income.

Special Foreign Currency Program

The requested budget increase for FY 1974 for the Special Foreign Currency Program is \$5,500,000 for a total funding level of \$9,000,000 in excess foreign currencies. The basic program provides grants to American institutions of higher learning for overseas archeological work, systematic and environmental biological research, astrophysical and earth sciences studies, and museum programs. It has benefitted more than 200 museums, universities, and research institutes in 32 states.

The budget request would allow us to meet the demand reflected by the constant flow of new and meritorious research proposals and to respond to the high priority assigned by both the United States and by excess currency host countries to research which includes a phase devoted to applying the results of the basic studies as, for instance, the application of ecological data to the development of sound pollution control programs. Important new collaborative research opportunities have opened up, especially in India, Pakistan, Burma, and Poland.

The FY 1974 funding level would also be used to complete with one final payment of \$4,000,000 equivalent in "excess" Egyptian pounds the United States' contribution to UNESCO's international campaign to preserve archeological monuments in Nubia. These are threatened by the waters of the Nile River as regulated by the Aswan Dam. This payment will support the preservation work proposed by Public Law 86-472 and supported by President John F. Kennedy in his letter to the Congress dated April 6, 1961.

Planning, Construction, Restoration, and Renovation
of Buildings and Facilities

Our budget request for the planning, construction, restoration, and renovation of buildings and facilities totals \$32,070,000. This request is distributed among three appropriation accounts.

Planning, construction, and repairs at the National Zoological Park	\$ 3,850,000
Restoration and renovation of other buildings and facilities	\$ 1,220,000
Construction of the National Air and Space Museum (liquidation of contract authority)	\$27,000,000

The request of \$3,850,000 for Zoo construction and improvements is designed to begin to implement the approved Master Plan with the goal of producing animal exhibits, visitor services and staff support facilities that are fully in keeping with the National nature of this Zoo. Of the budget request, an amount of \$3,000,000 will be used for a major, natural environment-like exhibit for lions and tigers, thus replacing the present Lion House constructed in 1890 which is a dangerous fire hazard as well as an unsatisfactory exhibit. Planning funds in the amount of \$275,000 are in the FY 1973 appropriation.

An amount of \$620,000 will be used for planning a terraced visitor parking structure to also house the maintenance shops and storage, commissary, and police operations. These funds will be used also to design a new primate exhibit, to design the exterior and interior changes to the existing Elephant House, to design outdoor exhibits of waterfowl and other birds, and to design a new restaurant near the Harvard Street entrance.

And, finally, an amount of \$230,000 is required to continue the program of essential repairs and renovation of existing facilities to keep the Zoo open and available to the public during the Master Plan development.

An appropriation of \$1,220,000 is sought for the restoration, renovation, and improvements to other Smithsonian buildings and facilities. These funds will be used to continue the road and power improvements, initiated with the FY 1973 appropriation, at the Mt. Hopkins, Arizona, Observatory (\$385,000); to increase the utility of the Silver Hill, Maryland, storage and restoration facility (\$250,000); and to finish architectural plans and specifications for construction of additional library space in the National Museum of History and Technology (\$100,000).

They will also be used in several Smithsonian buildings and facilities to make improvements and repairs to prevent further deterioration, ensure public safety, enhance appearance, and facilitate the program operations of the research organizations, museums, galleries, and other organizations using these spaces (\$410,000). And, finally, they will be used to undertake the study and development of a master plan for Smithsonian facilities in the Washington, D.C. area (\$75,000).

The last item under this general construction heading is for \$27,000,000 to liquidate the National Air and Space Museum construction contract authority provided by the Congress in the FY 1973 budget in addition to the \$13,000,000 appropriation in that budget.

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This completes my summary presentation of the Institution's budget request for next year. For over 125 years we have provided the American people with greater knowledge and appreciation of their natural and social environment and their cultural and technological achievements and heritage. With your support, we will continue and improve our efforts.

INCREASE IN VISITORS HIGHLIGHTED IN ANNUAL REPORT

Dr. RIPLEY. I would be very happy to highlight some of the contributions of this past year. Our annual report has been submitted to the Congress.

Senator BIBLE. And it is made part of the record by reference.

Dr. RIPLEY. I have highlighted in that annual report the fact that our attendance this past year passed 20 million visits to the institutions on and near the Mall itself, as well as to the zoo, and the Anacostia Museum.

And, by our estimates about 50 percent of the people visiting the zoo are from out of the immediate areas of Washington, that is the surrounding suburbs as well as the city. About 75 percent of the visitors to the buildings on the Mall appear to be from a similar radius away from the Capital and its environs.

Senator BIBLE. Is this your all-time high figure for visitation?

Dr. RIPLEY. It is. This visitation is also considerably greater than any other similar institutional complex in the world, and represents approximately 5 percent of the population of the United States as visiting the institution each year.

Senator BIBLE. How much increase was there at the zoo, 1972 vis-a-vis 1971, or the fiscal year, whichever is the mark?

Dr. RIPLEY. It has been running almost a 50 percent per month increase each month at the zoo.

Senator BIBLE. I suppose Dr. Reed would give the Pandas the credit for a great deal of that, wouldn't he?

Dr. RIPLEY. We think maybe the Pandas had a great deal to do with it.

Senator BIBLE. I am sure.

You may proceed. In other words, this is your all-time high visitation?

Dr. RIPLEY. Yes, sir; what I have attempted to do in our annual report is point out that we see no diminution of this in the future. In fact, we see an incredible increase within 3 years.

Senator BIBLE. Define the word "incredible."

Dr. RIPLEY. Well, incredible in the terms of a mass saturation of the mall by visitors, possibly a 50-percent increase over what we had this past year. In other words, 30 million or more annual visitation by within 3 years. This implies an elbow-to-elbow situation.

Senator BIBLE. Well, it is one of the great, worthwhile places to visit, there is no doubt about that.

Now, you get to the research area.

RESEARCH ACCOMPLISHMENTS

Dr. RIPLEY. In the research area, our Museum of Natural History has completed this year a monumental study of the Glass Mountain, Tex., fossil fauna. It is the largest and most complete in the world. We have also produced the first star catalog of ultraviolet stellar magnitudes.

All of this last data was derived from the Colescope Experiment built by our Astrophysical Observatory and flown on NASA's Orbiting Astronomical Observatory II.

NEW EXHIBITS

In the exhibit areas, we have had an enormously active year this past year. In the National Museum of History and Technology, we have made up for the disastrous fire of 1970 by reopening halls which were damaged in that fire, the permanent Halls of Money and Medals, Graphic Arts and Printing, Stamps and the Mail, News Reporting, Photography, and a Special Exhibits Gallery.

This museum has also opened just recently a fascinating exhibition on American productivity which we directed and organized as a result of discussions with the National Commission on Productivity, the Office of Management and Budget, and others.

At the National Portrait Gallery we have had two extraordinarily popular exhibitions. One was the "Portraits of the American Stage from 1771 to 1971" and the second one, a charming and very intriguing informative exhibition called "If Elected—Unsuccessful Candidates for the Presidency 1796–1968."

These exhibitions received critical acclaim and the catalog of the latter exhibition has already, I think, become a landmark in the history of America.

Senator BIBLE. Where is the National Portrait Gallery, Seventh or Eighth Street?

Dr. RIPLEY. It is between Seventh and Ninth on F, in the old U.S. Patent Office Building.

Senator BIBLE. Yes, I know where it is, I just wanted to orient myself.

RENWICK GALLERY

Dr. RIPLEY. The Renwick Gallery, a new subdivision of the National Collection of Fine Arts, has also had some splendid exhibitions this year.

Senator BIBLE. Is the Renwick Art Gallery under your jurisdiction?

Dr. RIPLEY. Yes, it is; it is under the National Collection of Fine Arts.

Senator BIBLE. Do you hold title to the Renwick Building?

Dr. RIPLEY. Yes, we do.

Senator BIBLE. In other words, it is a wholly owned subsidiary of the Smithsonian.

Dr. RIPLEY. That is correct.

Senator BIBLE. When did it become a part of the Smithsonian?

Dr. RIPLEY. Several years ago the Renwick Building, which had been the old U.S. Court of Claims, was vacant and scheduled for some kind of renovation. President Johnson became interested in the project and assigned the building to us. I recall the year was 1965. With funds which we received from the Congress, we have been able to renovate and restore it and we opened it in January 1972.

Senator BIBLE. Prior to that time it was a private art gallery; isn't that right?

Dr. RIPLEY. Yes, originally it was the Corcoran Art Gallery. It was designed for Mr. Corcoran's original gallery in the 1870's. Later it was turned over to the Federal Government and became eventually the home of the U.S. Court of Claims. The Court of Claims outgrew the building and took on a new home over on Lafayette Square on the east side of the square.

Senator BIBLE. Then the Renwick Art Gallery was formerly the Corcoran Art Gallery.

Dr. RIPLEY. Yes.

Senator BIBLE. I am square on it now. That is right down in George Washington University territory; isn't it?

Dr. RIPLEY. It is right next to Blair House on the corner of Pennsylvania Avenue and 17th, opposite the old State War-Navy Building, the Executive Office Building.

Senator BIBLE. Yes, now I have it in mind.

Dr. RIPLEY. It is a beautiful building and we christened it Renwick because Mr. James Renwick, who was the architect of that building, the first art gallery built in the United States, was also the architect of the Smithsonian's original building.

Senator BIBLE. Very well.

Dr. RIPLEY. We have had splendid exhibitions there and the new museum has been visited by over 200,000 people in the past year. It ties into the National Collection of Fine Arts, and we shall be asking later for some support for it because of the heavy use and the excellent opportunities for exhibitions that it affords.

OTHER MAJOR EXHIBITIONS

In our Arts and Industries Building, which is the old building next to the original Smithsonian Building, we had a major exhibit this past year to educate the public in understanding drugs in our culture. This was a popular exhibition and has been prepared to travel now around the country.

We also have in this building an opportunity for the National Air and Space Museum to present prototype exhibits of what they will be having in their new building when it is completed on the mall.

Senator BIBLE. Do we talk to Mr. Collins about that, or are you going to testify?

Dr. RIPLEY. Perhaps Mr. Collins can testify later about that.

The zoo has been very important this past year. We had an important milestone in the past year in that we have approval now for the master plan for the zoo which Dr. Reed can explain.

Senator BIBLE. But the pandas and Dr. Reed will talk about that.

SMITHSONIAN MAGAZINE

Dr. RIPLEY. And finally, I would like to mention the tremendous success during the past year of our associate activity, the Smithsonian Magazine. This is a privately funded venture which has served an important need to bring the Smithsonian to the public at large across the States.

Senator BIBLE. Is it 100-percent privately financed, there are no Federal dollars in it whatsoever?

Dr. RIPLEY. No Federal dollars.

We have reached a circulation of membership at the present time, of approximately 400,000. We know that we will have a guaranteed circulation of that amount by this June. This is quite a remarkable performance for a 3-year-old magazine.

Senator BIBLE. I agree.

We will go to your budget for fiscal 1974 now. The justifications for "Salaries and expenses" will be included in the record.

[The information follows:]

"SALARIES AND EXPENSES"Summary of Increase

Appropriation Act, FY 1973	\$51,633,000
FY 1974 Request	<u>56,438,000</u>
Requested Increase	\$ 4,805,000

Report of Obligations by Objects
(In thousands of dollars)

	<u>1972 Actual</u>	<u>1973 Estimate</u>	<u>1974 Estimate</u>	<u>Increase '74 over '73</u>
11 Personnel Compensation.....	28,969	31,994	34,639	2,645
12 Personnel Benefits.....	2,419	2,741	2,966	225
21 Travel & Transportation of Persons.....	463	557	622	65
22 Transportation of Things....	241	233	287	54
23 Rent, Communications, and Utilities.....	2,754	3,532	3,621	89
24 Printing and Reproduction...	761	736	856	120
25 Other Services.....	4,330	5,939	6,614	675
26 Supplies and Materials.....	1,741	1,979	2,537	558
31 Equipment.....	2,370	2,736	2,984	248
32 Lands and Structures.....	1	1	2	1
41 Grants.....	432	1,185	1,310	125
42 Insurance, Claims and Indemnities.....	<u>2</u>	<u>...</u>	<u>...</u>	<u>...</u>
Total Obligations.....	44,483	51,633	56,438	4,805
Lapsing.....	<u>18</u>	<u>...</u>	<u>...</u>	<u>...</u>
Total Appropriation.....	44,501	51,633	56,438	4,805

(Dollars in thousands)

"Salaries and Expenses"
Summary of the 1972 and 1973 Appropriations and the 1974 Estimates

Unit	1972 Actual		1973 Approp.		1974 Estimate		Analysis of Increases	
	Pos.	Amount	Pos.	Amount	Pos.	Amount	Nec Pay	Pos. Amount
Science								
Assistant Secretary for Science	9	\$170	9	\$123	9	\$126	\$3	0 \$0
National Museum of Natural History	335	5,676	340	6,442	345	6,680	138	5 100
Smithsonian Astrophysical Observatory	57	2,653	57	2,999	57	3,108	9	0 100
Smithsonian Tropical Research Inst.	52	843	58	906	58	921	15	0 0
Radiation Biology Laboratory	46	1,105	48	1,354	48	1,373	19	0 0
Office of Environmental Sciences	32	682	33	719	33	732	13	0 0
Chesapeake Bay Center	10	160	10	140	15	232	2	5 90
National Air and Space Museum	44	754	56	1,070	76	1,852	17	20 765
Center for the Study of Man	10	202	12	243	15	317	4	3 70
National Zoological Park	286	3,827	286	4,166	286	4,406	90	0 150
Subtotal Science	881	\$16,072	909	\$18,162	942	\$19,747	\$310	33 \$1,275
History and Art								
Assistant Secretary for History & Art	9	\$221	9	\$184	9	\$187	\$3	0 \$0
Museum of History and Technology	155	2,457	161	2,835	164	3,040	55	3 150
National Collection of Fine Arts	72	1,221	75	1,396	77	1,493	22	2 75
National Portrait Gallery	39	924	43	1,052	43	1,068	16	0 0
Hirshhorn Museum and Sculpture Garden	21	623	23	1,166	37	1,319	3	14 150
Freer Gallery of Art	8	78	14	186	14	191	5	0 0
Archives of American Art	11	193	11	190	12	223	3	1 30
National Armed Forces Museum Adv Bd	6	131	6	134	6	136	2	0 0
Smithsonian Archives	6	81	7	107	7	108	1	0 0
Subtotal History and Art	327	\$5,929	349	\$7,250	369	\$7,765	\$110	20 \$405
Public Service								
Assistant Secretary for Public Service	6	\$147	6	\$106	8	\$126	\$2	2 \$18
Anacostia Neighborhood Museum	15	206	18	267	21	302	4	3 31
Office of International Activities	9	140	10	160	11	206	5	1 41
International Exchange Service	9	147	9	160	9	168	8	0 0
Division of Performing Arts	7	265	9	303	10	345	3	1 39
Office of Public Affairs	12	372	12	281	12	284	3	0 0
Smithsonian Institution Press	25	816	25	810	26	830	4	1 16
Subtotal Public Service	83	\$2,093	89	\$2,087	97	\$2,261	\$29	8 \$145

(Dollars in thousands)

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Unit	1972 Actual		1973 Approp.		1974 Estimate		Analysis of Increases		
	Pos.	Amount	Pos.	Amount	Pos.	Amount	Nec Pay	Pos.	Amount
Museum Programs									
Assistant Secretary for Museum Programs	9	\$250	9	\$319	9	\$321	\$2	0	\$0
Conservation-Analytical Laboratory	13	195	14	269	19	371	2	5	100
Office of Exhibits Programs	158	2,580	148	2,552	163	2,904	52	15	300
Office of the Registrar	31	323	31	368	31	373	5	0	0
Smithsonian Institution Libraries	59	864	63	1,058	66	1,117	9	4	50
Smithsonian Traveling Exhibition Service	0	0	0	0	5	80	0	4	80
National Museum Act	3	600	3	798	3	899	1	0	100
Subtotal Museum Programs	273	\$4,812	268	\$5,364	296	\$6,065	\$71	28	\$630
Special Programs									
Introduction									
American Revolution Bicentennial Pro.	2	\$356	2	\$754	2	\$1,754	\$0	0	\$1,000
Environmental Sciences Program	8	268	8	273	8	175	2	0	-100
Major Exhibition Program	0	525	0	749	0	319	0	0	-430
Academic and Educational Programs	22	653	23	729	24	751	7	1	15
Research Awards	0	425	0	450	0	450	0	0	0
Subtotal Special Programs	32	\$2,227	33	\$2,955	34	\$3,449	\$9	1	\$485
Administrative and Support Activities									
Office of The Secretary	22	\$391	24	\$425	25	\$459	\$6	1	28
Office of General Counsel	9	213	10	192	11	222	5	1	25
Office of the Treasurer	33	647	35	754	36	788	9	1	25
Office of Personnel Administration	30	419	33	479	33	493	4	0	10
Office of Audits	5	116	6	107	8	138	1	2	30
Office of Equal Opportunity	3	64	3	63	5	103	0	2	40
Photo Services Division	26	368	29	520	29	526	6	0	0
Information Systems Division	14	267	17	322	18	349	7	1	20
Supply Division	21	365	21	404	23	425	6	2	15
Management Analysis Office	10	168	10	186	12	217	6	2	25
Protection Services	291	3,506	332	3,780	378	4,098	40	46	278
Other	10	165	10	147	11	181	12	22	22
Subtotal Admin. & Support Act.	474	\$6,689	530	\$7,379	589	\$7,999	\$102	59	\$518
Buildings Management	500	\$6,988	521	\$8,436	594	\$9,152	\$119	73	\$597
Total	2,570	\$44,810	2,699	\$51,633	2,921	\$56,438	\$750	222	\$4,055

NECESSARY PAY AND RELATED BENEFITS

An increase of \$750,000 is required for personnel compensation and personnel benefits for the projected higher costs in FY 1974 of FY 1973 staff. The operations of the Smithsonian have been carefully reviewed and \$284,000 have been absorbed. These higher costs result from the following actions:

- a. To finance periodic step increases made in accordance with the Government Employees Salary Reform Act of 1964 and with currently prevailing practices in the wage scale..... \$755,000
 - b. To finance wage raises for the wage grade, wage leader, and wage supervisor employees and for the manual employees in Panama..... \$329,000
 - c. Offset by savings due to reducing average general schedule grade level..... -50,000
 - d. Absorbed..... -284,000
- Total request for Necessary Pay..... \$750,000

The cost of the General Schedule pay raise effective January 7, 1973, is not included in the above request. The Office of Management and Budget advises that the cost of this pay raise may be handled as a supplemental in FY 1974.

Periodic step increases are made in accordance with Government Employees Salary Reform Act of 1964 and prevailing practices in the wage system. The apparent cost of these increases was determined through a position-by-position study and has been offset by the effect of employees leaving the Smithsonian and not receiving their within-grades and by employing new personnel at lower steps than previous incumbents. This salary increase would average approximately \$272 for within-grades of employees in their present positions. In the past the amount was also offset by the effects of promotions of employees in their present positions. The current control on promotions in order to lower the average grade of General Schedule employees has had the effect of reducing these savings. Savings from control of grade rise, however, have been applied. Total additional costs in FY 1974 of periodic increases (the additional costs of annualizing periodics granted in FY 1973 and the costs in FY 1974 of new periodic steps granted in that year) are estimated at \$755,000. An amount of \$522,000 is requested.

The Smithsonian Institution employs over 700 wage employees. In FY 1973 the wage board employees are expected to benefit from four pay actions:

- On August 20, 1972, the non-supervisory wage grade employees in grades 1 through 4 received a salary increase ranging from one cent per hour to nine cents per hour.
- The number of steps in the wage grade series was three for non-supervisory and leader personnel. The steps will be extended to five for non-supervisory and leader personnel on or before April 20, 1973. Since the time in grade from step 1 through 3 was only 18 months most wage personnel are already in step 3. The waiting period to go to step four is understood to be two years. Therefore, approximately 60 percent of the wage employees in the non-supervisory and leader scales will go to step 4.
- A new wage review was ordered for the entire wage structure of non-supervisory, leader, and supervisory personnel. This raise was made effective October 29, 1972. Because of the Administration's wage and price controls this raise was limited to 5.5 percent.

--In addition, the manual employees at the Smithsonian Tropical Research Institute in Panama received a raise in July 1972 and are expected to receive another raise in July 1973.

The request for \$228,000 is to help finance the annual cost in FY 1974 of these four wage raises. The actual cost of these raises was estimated at \$329,000.

Necessary Pay by Unit:

(Dollars in thousands)

Unit	Periodic Step Inc.	Wage Raise	Total
Assistant Secretary for Science	3		3
National Museum of Natural History	138		138
Smithsonian Astrophysical Observatory	9		9
Smithsonian Tropical Research Institute	13	2	15
Radiation Biology Laboratory	6	13	19
Office of Environmental Sciences	10	3	13
Chesapeake Bay Center for Environmental Studies	2		2
National Air and Space Museum	15	2	17
Center for the Study of Man	4		4
National Zoological Park	30	60	90
Assistant Secretary for History and Art	3		3
National Museum of History and Technology	55		55
National Collection of Fine Arts	22		22
National Portrait Gallery	16		16
Hirshhorn Museum and Sculpture Garden	3		3
Freer Gallery of Art	4	1	5
Archives of American Art	3		3
National Armed Forces Museum Advisory Board	2		2
Smithsonian Archives	1		1
Assistant Secretary for Public Service	2		2
Anacostia Neighborhood Museum	4		4
Office of International Activities	5		5
International Exchange Service	3	5	8
Division of Performing Arts	3		3
Office of Public Affairs	3		3
Smithsonian Institution Press	4		4
Assistant Secretary for Museum Programs	2		2
Conservation-Analytical Laboratory	2		2
Office of Exhibits Programs	37	15	52
Office of the Registrar	5		5
Smithsonian Institution Libraries	9		9
National Museum Act	1		1
Environmental Sciences Program	2		2
Academic and Educational Programs	7		7
Office of the Secretary	6		6
Office of General Counsel	5		5
Office of the Treasurer	9		9
Office of Personnel Administration	4		4
Office of Audits	1		1
Photographic Services Division	6		6
Information Systems Division	7		7
Supply Division	6		6
Management Analysis Office	6		6
Protection Services	40		40
Other	1	11	12
Buildings Management	3	116	119
Total, Necessary Pay and Related Benefits	522	228	750

OFFICE OF THE ASSISTANT SECRETARY FOR SCIENCE

(Dollars in thousands)

	<u>Base</u> <u>FY 1973</u>	<u>Increase</u> <u>Requested</u>	<u>Est.</u> <u>FY 1974</u>
No. of Permanent Positions.....	<u>9</u>	<u>-</u>	<u>9</u>
11 Personnel Compensation.....	100	3	103
12 Personnel Benefits.....	9		9
21 Travel & Trans. of Persons..	6		6
22 Transportation of Things....			
23 Rent, Comm. & Utilities.....	1		1
24 Printing and Reproduction...			
25 Other Services.....	4		4
26 Supplies and Materials.....	2		2
31 Equipment.....	1		1
32 Lands and Structures.....			
41 Grants.....	<u></u>	<u></u>	<u></u>
TOTAL	<u>123</u>	<u>3</u>	<u>126</u>

Analysis of Increase

Pay Increase.....	3
Program.....	-

Specification of Increase (Program):

This Office is responsible for overall planning, coordinating, and reviewing the progress of thirteen science bureaus and programs within the Institution. No program fund increase is requested for FY 1974.

1972 Actual.....	\$170,000
1973 Appropriation.....	\$123,000
1974 Estimate.....	\$126,000

The Office of the Assistant Secretary for Science advises and assists the Secretary in planning, implementing, and reviewing the progress of Smithsonian science programs. This office assists in planning, coordinating, and reviewing the work of the various scientific bureaus and offices within the Smithsonian. The bureaus reporting to the Assistant Secretary for Science are the National Museum of Natural History, the Radiation Biology Laboratory, the Smithsonian Tropical Research Institute, the National Zoological Park, the National Air and Space Museum, the Smithsonian Astrophysical Observatory, the Office of Environmental Sciences, the Chesapeake Bay Center for Environmental Studies, the Center for the Study of Man, the Smithsonian Science Information Exchange, and Fort Pierce. This office is also responsible for the administration of the Research Awards Program and the Environmental Sciences Program.

No program increase is being sought for this office. An amount of \$3,000 is sought for necessary pay.

NATIONAL MUSEUM OF NATURAL HISTORY

(Dollars in thousands)

	Base FY 1973	Increase Requested	Est. FY 1974
No. of Permanent Positions.....	<u>340</u>	<u>5</u>	<u>345</u>
11 Personnel Compensation.....	4,954	164	5,118
12 Personnel Benefits.....	409	14	423
21 Travel & Trans. of Persons..	109	6	115
22 Transportation of Things....	5	1	6
23 Rent, Comm. & Utilities.....	21	2	23
24 Printing and Reproduction...	4	1	5
25 Other Services.....	385	10	395
26 Supplies and Materials.....	123	10	133
31 Equipment.....	432	30	462
32 Lands and Structures.....			
41 Grants.....			
TOTAL	<u>6,442</u>	<u>238</u>	<u>6,680</u>

Analysis of Increase

Pay Increase.....	138
Program.....	100

Specification of Increase (Program):

Correct Museum Support Deficiencies (5 positions; \$100,000). This museum serves as a national and international center for the natural sciences. It maintains the largest reference collections in the nation and conducts a broad program of identification and documentation, collections management, research, exhibits, and education--including collaborative projects with universities and other institutions. A serious imbalance exists between the professional research curatorial staff and the support personnel and resources available for their efforts (museum technicians, illustrators, assistants, typists, equipment, supplies, etc.). The increase requested (the third in a program originally planned to span three years) will permit continued progress toward the support ratios recommended by the Office of Science and Technology Panel on Systematics and Taxonomy in the Federal Government. Five museum technicians (\$40,000) are requested, along with support funds (\$60,000) for travel, other services, laboratory supplies, and scientific and storage equipment.

1972 Actual.....	\$5,676,000
1973 Appropriation.....	\$6,442,000
1974 Estimate.....	\$6,680,000

This Museum serves as a national and international center for the natural sciences. It maintains the largest reference collections in the Nation (over 55 million objects) and conducts a broad program of basic research on man, plants, animals, fossil organisms, rocks, minerals, and materials from outer space. Its research is concerned with classification, distribution, analysis, and environmental and ecological relationships. Its fundamental studies in systematics and biology are providing new information required for the solution of major national problems of conservation and pollution, food production, improvement of medical knowledge, and for planning national and international programs leading to predictive ecology and environmental management.

Several million persons each year, including many thousands of school children in organized tours, visit the exhibits. It engages in joint educational programs with universities by teaching courses, training graduate students, conducting science seminars, and providing leadership in the improvement of museum techniques, collections management, especially through the application of computer technology.

The National Museum of Natural History (NMNH) has the legal responsibility (20 U.S.C. 59) to serve as the ultimate Federal repository of all collections and objects of natural history, archaeology, and ethnology made by agencies of the Government when no longer needed by those agencies for investigations in progress. Additionally, the NMNH is the repository for numerous extremely valuable collections obtained from other sources, such as the scientific community, academic institutions, as well as many private individuals. Because the Museum is the national repository, it has responsibilities far beyond the research of its own staff. It assists both the layman and the scientist with identification, lends specimens for research, and safeguards the tangible results of research. As the National Museum, it has inherent responsibility to provide leadership for other museums and institutions in good collections management techniques.

The National Museum of Natural History has in its collections approximately one-third of all the natural history specimens in the United States. There is no other single repository anywhere with so much documentary materials for determining the composition of the biota in various parts of the world from millions of years ago to the present. For these reasons, the controlled acquisition, protection, and increased availability of the National Collections for study and exhibit continues to occupy a high priority.

For FY 1974, the Museum is requesting an additional \$100,000 to further correct imbalances that exist between the levels of professional staff and the support effort necessary for proper curation of and research with the Natural History collections. An additional \$138,000 is required for necessary pay for current staff.

Need for Increase

The increased funding provided to the Museum in FY 1972 and 1973 has enabled it to make substantial progress in correcting the curatorial and research support shortages relating to the Museum's operation which were initially identified in that year's budget presentation. This program is an essential part of the total efforts to make the Museum and its collections more useful to those institutions and agencies needing the expertise which the Museum can offer to their basic research activities.

At the end of FY 1970 the Museum's ratio of support personnel to scientist was 1.10 to 1.00. This had the effect of forcing the scientific staff to spend a high percentage of its time on clerical and technical duties at the expense of research and scholarship, exhibits planning, and other professional level activity. Notable improvements in this ratio have been made as shown in the following table.

Ratios of Man-Years of Effort Between Support and Professionals 1/

<u>FY</u>	<u>Support Staff</u>	<u>Scientists</u>	<u>Ratio</u>
1971/actual	130	103	1.26:1.00
1972/actual	154	108	1.42:1.00
1973/esti.	172	111	1.55:1.00
1974/esti.	177	111	1.59:1.00

1/ Ratios apply to personnel assigned directly to science support. They exclude personnel in EDP applications and NMNH director's office.

Already the additional support staffing granted in the past two fiscal years has resulted in the benefit of increased productivity of both the scientists and the higher level technical personnel. The additional support staffing requested for FY 1974 will enable the Museum to continue to move toward the support ratio of two technical and clerical personnel for each scientist which had originally been set as a target for FY 1973. When the NMNH experiences a ratio of 2 support personnel per scientist, an evaluation at this level of support will be made before requesting any additional funds to enable the establishment of the three to one relationship goal recommended in 1969 by the Office of Science and Technology Panel on Systematics and Taxonomy in the Federal Government. Of the proposed \$100,000 increase, \$40,000 is associated with the five additional technical positions being sought.

The balance of the requested increase, \$60,000, is requested to continue to improve current levels of funding for other non-personnel support. This includes \$30,000 for equipment items, which with the base funding allowed in FY 1973 would place the museum's ability to acquire and replace needed museum and scientific equipment at an annual funding level of about \$213,000. A large part of the necessary equipment purchases is related to special scientific instrumentation and proper and adequate storage of the constantly growing collections. The scientific equipment is frequently complex and costly, but is essential to acquire if the research scientists are to keep abreast of the developing techniques of their specialties. The storage requirements of the National Collections continue to increase at a pace which outstrips current capacity to house them in spite of increasingly selective acquisition procedures. The original goal through FY 1975 was to increase the funds available for equipment purchase and replacement to an annual level of approximately \$500,000. At that point operating experience would be evaluated to determine the optimum level for equipment funding.

The balance of the increase (\$30,000) will be directed at allowing small growth of other support to keep pace with the increasing pressures resulting from recent program growth, and to continue to improve the substandard levels of funding which are available to each professional for field research, normal supplies and materials, and other centrally provided services.

SMITHSONIAN ASTROPHYSICAL OBSERVATORY

(Dollars in thousands)	Base FY 1973	Increase Requested	Est. FY 1974
No. of Permanent Positions.....	57	-	57
11 Personnel Compensation.....	1,202	8	1,210
12 Personnel Benefits.....	102	1	103
21 Travel & Trans. of Persons..	72		72
22 Transportation of Things....	34	5	39
23 Rent, Comm. & Utilities.....	239	25	264
24 Printing and Reproduction...	17	2	19
25 Other Services.....	1,113	38	1,151
26 Supplies and Materials.....	119	15	134
31 Equipment.....	101	15	116
32 Lands and Structures.....			
41 Grants.....			
TOTAL	2,999	109	3,108

Analysis of Increase

Pay Increase.....	9
Program.....	100

Specification of Increase (Program):

General Research Support (\$100,000). The study of astrophysics continues to grow in importance, both for its fundamental, long-range implications and for the more immediate concerns of man and his planet. To continue these investigations and to preserve the ability to shift emphasis to cope with new, important problems, the observatory requires an increase of \$100,000. In the face of rising costs, this amount will allow the SAO to maintain the existing level of research support (such as computer time and rental of laboratory space) to investigations of distant objects in the universe, the solar system, and the earth as a planet. It also will keep observational and laboratory instrumentation current with the state of the art. With funds in the base appropriation, the observatory will continue the phased development and fabrication of the Multi Mirror Telescope in cooperation with the University of Arizona.

1972 Actual.....	\$2,653,000
1973 Appropriation.....	\$2,999,000
1974 Estimate.....	\$3,108,000

For more than 80 years the Smithsonian Astrophysical Observatory (SAO) has conducted research in problems of astrophysics selected for their significance. As pursued by the Observatory, astrophysics ranges from investigations of distant objects in the universe to studies of the solar system and the earth as a planet.

At one extreme of this range, scientists at the Observatory are concerned with the nature of quasars, of distant galaxies, and of energetic processes in distant parts of the universe. These are some of the most important topics to modern astronomers, who suspect that they may be observing fundamental physical processes previously unknown to mankind. As the investigation of these profound topics has unfolded, SAO has put increasing emphasis on high energy astrophysics. This emphasis is manifest in ground-based gamma-ray observations from Arizona and Australia, in a growing involvement in X-ray astronomy, and in the development of a major balloon-borne telescope for infrared observations.

At the other extreme of the range of programs, scientists at the Observatory are deeply committed to analysis of new solar data from both ground and spacecraft observatories. In recent years, substantial opportunities for important new understandings of solar phenomena have brought the observatory to stress this line of research. Still closer to home, the newly embraced concepts of global tectonics and continental drift, when fully understood, may provide the insight for such practical matters as predicting the probability of earthquakes occurring in given locations. These aspects of the earth as a planet are also receiving renewed

emphasis, because the Observatory has particular expertise in the astronomical observations that can clarify them.

The FY 1974 budget request shows an additional \$100,000 for general program support and \$9,000 for necessary pay for current staff.

Need for Increase

The study of astrophysics continues to grow in importance, both for its fundamental, long-range implications and for the more immediate concerns of man for his planet. To continue these investigations and to preserve the ability to shift emphasis to cope with new, important problems, the Observatory requires an increase of \$100,000. In the face of rising costs, this sum will allow the Observatory to maintain the existing level of research support, such as computer time and rental of laboratory space, to the programs described above, and to keep its observational and laboratory instrumentation current with the state of the art.

During FY 1973 and 1974 the Observatory will continue the major project of the phased development and fabrication, in cooperation with the University of Arizona, of the Multi Mirror Telescope. This telescope to be installed at the Observatory's Mt. Hopkins facility will be the world's third largest telescope and the largest ever designed for infrared astronomy. Of unique innovative design, consisting of six 72-inch telescopes mounted around a central axis to produce a light-collecting power equivalent to a conventional 176-inch instrument, the MMT will serve observers from both the Smithsonian and the University as well as from other institutions around the world.

SMITHSONIAN TROPICAL RESEARCH INSTITUTE

(Dollars in thousands)	Base FY 1973	Increase Requested	Est. FY 1974
No. of Permanent Positions.....	<u>58</u>	<u>-</u>	<u>58</u>
11 Personnel Compensation.....	615	14	629
12 Personnel Benefits.....	83	1	84
21 Travel & Trans. of Persons..	28		28
22 Transportation of Things....	7		7
23 Rent, Comm. & Utilities.....	30		30
24 Printing and Reproduction...	1		1
25 Other Services.....	63		63
26 Supplies and Materials.....	45		45
31 Equipment.....	34		34
32 Lands and Structures.....			
41 Grants.....			
TOTAL	<u>906</u>	<u>15</u>	<u>921</u>

Analysis of Increase

Pay Increase.....	15
Program.....	-

Specification of Increase (Program):

The work of the Smithsonian Tropical Research Institute is directed towards increasing our knowledge of tropical environments. In the tropics, the great diversity of plant and animal life provides unusually favorable opportunities for the analysis of fundamental biological problems of worldwide applicability and significance. The ultimate aims of STRI are to increase and refine knowledge of fundamental aspects of biology and to provide some of the essential data for intelligent conservation and management of environments. The large number of visitors from universities and institutions in all parts of the world, and the volume of highly regarded publications resulting each year from research conducted at the Institute are indicative of the relevance of its research. No program fund increase is requested for FY 1974.

1972 Actual..... \$843,000
 1973 Appropriation..... \$906,000
 1974 Estimate..... \$921,000

Established 26 years ago to foster understanding of tropical environments and organisms and to administer the Laboratory and field station on Barro Colorado Island, the Smithsonian Tropical Research Institute (STRI) has become a center of excellence for the training of advanced students and for research by staff and visiting scientists. In FY 1972, twenty-six seminars were given at STRI, and it received 797 visitors from universities and institutions in the U.S. and 38 foreign countries.

The primary concern of the bureau is the relationship between environment and survival. This is a vital relationship and one which can perhaps be studied and reported on more readily and profitably in the tropics, the habitat of more than one-half of mankind, than elsewhere. There is more material available for analysis in the tropics (with their diverse biotas and complexity of competitive processes and interactions); and, most important from a practical point of view, the material is available for year-round field study. Within the tropics, the region of the Isthmus of Panama is particularly convenient because of its accessibility and the variety of habitats, marine as well as terrestrial, which occur in proximity to one another.

The ultimate aims of STRI are to increase and refine knowledge of fundamental aspects of biology and to provide essential data for intelligent conservation and management of environments in diverse geographical areas. In FY 1972, research conducted at the Institute resulted in more than 36 publications, including articles in the world's leading biological journals.

In the past, STRI has concentrated upon a defined range of habitats (such as humid forests and marine reefs) and organisms (such as terrestrial vertebrates, certain arthropods, and corals and their associates). There is an urgent need to extend analysis to other areas and environments (grasslands for example) and other kinds of animals and plants, and to start more detailed investigations of the biological and climatic effects of different types of human subsistence patterns, in the past as well as the present. The picture must be placed in both comparative and historical perspective in order to be fully comprehensible.

In FY 1974, no funding increases are being requested for this activity except necessary pay (\$15,000). This assumes that existing projects will be terminated or reduced in scale as new programs develop.

RADIATION BIOLOGY LABORATORY

(Dollars in thousands)	Base <u>FY 1973</u>	Increase <u>Requested</u>	Est. <u>FY 1974</u>
No. of Permanent Positions.....	<u>48</u>	<u>-</u>	<u>48</u>
11 Personnel Compensation.....	604	17	621
12 Personnel Benefits.....	51	2	53
21 Travel & Trans. of Persons..	10		10
22 Transportation of Things....	4		4
23 Rent, Comm. & Utilities.....	360		360
24 Printing and Reproduction...	4		4
25 Other Services.....	60		60
26 Supplies and Materials.....	50		50
31 Equipment.....	211		211
32 Lands and Structures.....			
41 Grants.....			
TOTAL	<u>1,354</u>	<u>19</u>	<u>1,373</u>

Analysis of Increase

Pay Increase.....	19
Program.....	-

Specification of Increase (Program):

The research of the Laboratory consists of three principal areas: regulatory biology, environmental biology, and carbon-14 dating. From the initial charge that it be concerned with the effects of the sun's energy on earth's life, a major portion of the program of the Laboratory has been devoted to the study of the responses of living organisms to various qualities and intensities of radiant energy. Of particular interest to the health sciences is the continuing development of a scanning radiometer for measuring sunlight, especially in the ultraviolet. No program funding increase is requested in the FY 1974 budget.

1972 Actual.....	\$1,105,000
1973 Appropriation.....	\$1,354,000
1974 Estimate.....	\$1,373,000

Light is a key controlling environmental factor for the development and growth of biological systems. The storage of solar radiation as chemical energy in photosynthesis is basic for all life on earth. However, the utilization of this energy is regulated by subtle changing signals of light quality, duration, and intensity. A primary objective of the Laboratory's efforts is to explain the influences of the various factors in the environment--light, temperature, humidity, and atmospheric content--on the growth and development cycles of plants and to characterize the mechanisms through which environmental signals eventually manifest their effects on the developmental processes in living organisms. This objective is accomplished by studying environmental influences on plant growth and development in the Laboratory under controlled conditions using biochemical, biophysical, and physiological techniques and then verifying the importance of these processes in nature by monitoring the natural, dynamic environment. Such programs of research by their very nature are long-term and require the concerted team efforts of many scientific disciplines.

The research of the Laboratory consists of three principal areas:

(1) regulatory biology, (2) environmental biology, and (3) carbon-14 dating. From the initial charge that it be concerned with the effects of the sun's energy on earth's life, a major portion of the program of the Radiation Biology Laboratory (RBL) has been devoted to the study of the responses of living organisms to various qualities and intensities of radiant energy.

Since its inception in 1928, the Laboratory has pioneered research on the influences of the spectral quality of visible light on plant growth and development. The present experimental program is of greater scope than in any other single laboratory in the country and perhaps in the world. The complexity of the problems studied is demonstrated by the number of disciplines within the program, which has a range through physiology, cytology, biochemistry, biophysics, physics, engineering, electron microscopy, and morphology. The Laboratory has been credited with major contributions in the field of photobiology.

In FY 1974 a budget increase of \$19,000 is requested for necessary pay for staff.

The Laboratory has a phased major objective the completion of the relocated facility at Rockville, and the elimination of program shortages. In FY 1973-74, based on a design effort nearing completion, the RBL plans to erect an environmental plant growing facility at the Rockville site as a replacement for the "greenhouse" now in use behind the original Smithsonian Building on the Mall. Funds for this facility are available in the Restoration and Renovation of Buildings account which provided for the relocation of the Laboratory.

A significant deficiency exists in the regulatory biology program, a research area of major emphasis that is primarily concerned with light-controlled plant and animal responses. These responses, influenced by light signals of varying degrees, help to trigger major changes in the reproductive and life cycles of plants, and in the migratory patterns of birds and animals. The FY 1973 funding level will allow continued progress to be made in outfitting and completing controlled growth rooms over the next several years. About \$60,000 should be available in the current base for this purpose. When a prototype room is completed, tested, and made operational, additional funding requirements for equipping the balance of the Laboratory's rooms will be determined.

In FY 1974, it is important that the Laboratory continue its program for development of a scanning radiometer for measuring sunlight, especially in the ultraviolet. Numerous requests have been received for this data from other researchers including those in the Department of Transportation, International Biological Program, and Environmental Protection Agency. At present the data which have been produced in the Laboratory for the past several years are the only data available. These data may allow for long term predictions about the influence of man on the environment. In addition, the ultraviolet data are of interest to the health sciences, since changes in ultraviolet are associated with skin cancer frequencies. Our current radiometers for the visible can be readily adapted for ultraviolet use at considerable saving to the Federal agencies.

These instruments will provide needed information concerning the amount of ultraviolet energy, as well as better define the short wavelength limits of ultraviolet radiation for agencies already using current monitoring data.

OFFICE OF ENVIRONMENTAL SCIENCES

(Dollars in thousands)	<u>Base FY 1973</u>	<u>Increase Requested</u>	<u>Est. FY 1974</u>
No. of Permanent Positions.....	<u>33</u>	<u>-</u>	<u>33</u>
11 Personnel Compensation.....	527	12	539
12 Personnel Benefits.....	44	1	45
21 Travel & Trans. of Persons..	24		24
22 Transportation of Things....	3		3
23 Rent, Comm. & Utilities.....	26		26
24 Printing and Reproduction...	11		11
25 Other Services.....	26		26
26 Supplies and Materials.....	30		30
31 Equipment.....	28		28
32 Lands and Structures.....			
41 Grants.....			
TOTAL	<u>719</u>	<u>13</u>	<u>732</u>

Analysis of Increase

Pay Increase.....	13
Program.....	-

Specification of Increase (Program):

The Office of Environmental Sciences integrates and mobilizes the scientific resources of the Institution for the solution of urgent, contemporary, environmental problems. Ongoing programs include the Center for Natural Areas, the Center for Short-lived Phenomena, the Oceanographic sorting centers in Washington and Tunis, and numerous research projects on biological control and monitoring. No program increase is requested in FY 1974.

1972 Actual.....	\$682,000
1973 Appropriation....	\$719,000
1974 Estimate.....	\$732,000

The Smithsonian's unique scientific resources are integrated by the Office of Environmental Sciences for the solution of urgent, contemporary environmental problems. The Office responds to a diverse range of public inquiries dealing with biological and ecological aspects of environmental issues. Increasingly, it conducts contract research for and reviews programs of organizations such as the Environmental Protection Agency, Council on Environmental Quality, Corps of Engineers, and other Defense Department Agencies, the National Oceanic and Atmospheric Administration, and National Science Foundation. Private foundations and trusts also provide research support.

The Office will continue to apply Smithsonian resources to compelling research on environmental problems during FY 1974. Special projects will be funded from grants and contracts with other organizations. A necessary pay increase of \$13,000 for current staff is requested.

Two examples of research projects in which this office is involved include an effort to replace environmentally hazardous chemical pesticides with the biological control of non-agricultural pests and a study of the environmental consequences of large foreign aid projects such as man-made lakes, major highway links through jungle, and rapid urbanization.

Growing recognition of the need to preserve wilderness and primitive areas for research and educational purposes and as reserves for rare and endangered species has prompted creation of a Center for Natural Areas. The Center extends technical advice to agencies involved in procurement and management of conservation areas and maintains a current computerized registry of the more than 15,000 natural areas in the United States.

The Office's Center for Short-Lived Phenomena provides a world-wide environmental early warning network for the rapid communication of scientific information on short duration environmental events. Through such monitoring the Center improves opportunities for research while environmental changes are occurring. The program is so unique and effective that the new United Nations Environmental Program has asked the Center to assume a leadership role in organizing Earthwatch, the global environmental monitoring program.

Another contribution to environmental research is provided through oceanographic sorting centers in Washington and Tunis which supply more than 350 scientists from 200 agencies and institutions around the world with assistance in curatorial support, sampling design, biological analysis, and data management in addition to thousands of sorted specimens essential to determining the impact of environmental change upon living species.

CHESAPEAKE BAY CENTER FOR ENVIRONMENTAL STUDIES

(Dollars in thousands)	Base FY 1973	Increase Requested	Est. FY 1974
No. of Permanent Positions.....	<u>10</u>	<u>5</u>	<u>15</u>
11 Personnel Compensation.....	106	58	164
12 Personnel Benefits.....	9	5	14
21 Travel & Trans. of Persons..	3		3
22 Transportation of Things....			
23 Rent, Comm. & Utilities.....	10	5	15
24 Printing and Reproduction...			
25 Other Services.....	7	10	17
26 Supplies and Materials.....	3	5	8
31 Equipment.....	2	9	11
32 Lands and Structures.....			
41 Grants.....			
TOTAL	<u>140</u>	<u>92</u>	<u>232</u>

Analysis of Increase

Pay Increase.....	2
Program.....	90

Specification of Increase (Program):

Research, Information Transfer, and Education (5 positions; \$90,000). The Bay Center, a 2,000 acre natural preserve of land, water, and marsh areas, has growing national use and potential as a living museum of contemporary and historical significance, a primary resource for both teaching and research on complex living systems, and the largest facility in the nation available for the study of land-water (estuarine) relationships. It is now the focal point of a model watershed study program for the Rhode River involving a number

of Federal, state and community organizations. Some 20 research projects involving 75 scientists from universities and agencies are underway. Education activities consist of work-study opportunities for graduate and undergraduate students, field study projects for elementary school students (some 3,000 may be involved), and research on environmental education.

This work has been supported almost entirely with temporary grant and contract funds with no assurance of sustained, productive funding. The limited Federal appropriation now available provides general direction, administration, and limited program support. An increase of \$90,000 is requested for research and support staff (plant ecologist, soils scientist, education technician, and two maintenance men at a cost of \$61,000) and for 'ities, supplies, contract services, and equipment (\$29,000).

1972 Actual.....	\$160,000
1973 Appropriation.....	\$140,000
1974 Estimate.....	\$232,000

The Chesapeake Bay Center is a 2,000 acre area located on the Chesapeake Bay seven miles south of Annapolis, Maryland, about equidistant from Baltimore and Washington. It was established in 1965 for the purpose of creating scientific and education programs in the environmental sciences leading to a more complete understanding of what is necessary for human health, welfare, and continued existence on earth. The development of these programs was made possible by the acquisition with non-appropriated funds of a land-water unit large enough to include forests, marshes, fields, and agricultural areas that together form the mosaic of land uses characteristic of the mid-Atlantic region since its settlement. It shows the results of man's past and present activities as vital components of interacting physical and biological systems. The Center now provides a living museum of contemporary and historical significance, a primary resource for both teaching and research on complex living systems, and the largest facility in the nation available for the study of land-water (estuarine) relationships. A map of the Center is shown on a following page.

The budget for FY 1974 contains a request for an additional \$90,000 for research and support personnel and general operating expenses and an amount of \$2,000 for necessary pay for current staff.

Need for Increase

The program of the Center has evolved to include: (1) research in the environmental sciences; (2) information transfer activities; and (3) education.

To further the research program of the Center, and to direct it to meet urgent national needs, the Smithsonian is participating in the Chesapeake Research Consortium, an organization including the University of Maryland, The Johns Hopkins University, and the Virginia Institute of Marine Science.

As a part of this research program the Center has become the focal point of a model watershed program for the Rhode River, a sub-estuary of the Chesapeake Bay along which the Center has 14 miles of shoreline. Data on land use history, ecosystem function, and socioeconomic trends and attitudes is being collected in such a manner that it can be used in planning for long-term optimal use of the land and water resources of this watershed and its adjacent estuary, as well as for other similar sub-systems surrounding the Chesapeake Bay. The methodology developed at the Center for land use planning should have utility in many other regions of the United States. In addition to the Consortium members, this model community action program is being developed and conducted in conjunction with the Anne Arundel County Office of Planning and Zoning, the Maryland Department of Natural Resources, the Soil Conservation Service, the U.S. Geological Survey, the Department of Housing and Urban Development, as well as other agencies and academic institutions. A representative listing of specific research projects appears on a subsequent page.

Information transfer activities include the dissemination of research results to appropriate planning and management agencies, as well as studies on techniques useful in the transfer of technical information to citizens' organizations and the general public. The education program consists of providing work-study opportunities for graduate and undergraduate students, the provision of experimental field study programs for elementary school students, and the conduct

of research on environmental education that focuses on the analysis of ecosystems in urban, suburban, and rural settings. It is planned that the developing program of environmental interpretation will be suitable for future regional ecological research centers.

The staff of the Center presently consists of ten persons all of whom serve an administrative or support function. These persons are presently unable to handle the volume of inquiries, schedule the growing scientific and education use of the Center, and administer its various programs. It is urgent that these activities go forward in FY 1974 in advance of the rapidly encroaching urbanization and industrialization of the region. Interest in the scientific and educational potential of the Center, and participation in the modest programs developed to exploit this potential have grown exponentially in the last year, and now far exceed the financial resources of the Smithsonian that can be allocated to them. The selection of the Center as one of the primary research sites for the Chesapeake Research Consortium has resulted in the establishment of 20 research projects involving approximately 75 scientists from nearby universities and agencies. Still, vital gaps in plant ecology and soils science exist, and no scientists are presently employed for needed monitoring and long-term continuity and coordination of research. Requests for work-study experiences at the Center, from local schools alone, include the potential involvement of over 3,000 children.

The new staff requested for FY 1974 includes a plant ecologist, a soils scientist, one research technician to work in the education program, and two maintenance men required for facilities upkeep (\$61,000). Additional program support funds are required for essential utility services, for research, maintenance, custodial, and boat supplies, for maintenance and repair services and contracts, and for laboratory and grounds equipment (\$29,000).

NATIONAL AIR AND SPACE MUSEUM

(Dollars in thousands)	Base <u>FY 1973</u>	Increase <u>Requested</u>	Est. <u>FY 1974</u>
No. of Permanent Positions.....	<u>56</u>	<u>20</u>	<u>76</u>
11 Personnel Compensation.....	734	219	953
12 Personnel Benefits.....	62	19	81
21 Travel & Trans. of Persons..	14	1	15
22 Transportation of Things....	13	2	15
23 Rent, Comm. & Utilities.....	3	21	24
24 Printing and Reproduction...	6	3	9
25 Other Services.....	163	347	510
26 Supplies and Materials.....	17	168	185
31 Equipment.....	58	2	60
32 Lands and Structures.....			
41 Grants.....			
TOTAL	<u>1,070</u>	<u>782</u>	<u>1,852</u>

Analysis of Increase

Pay Increase.....	17
Program.....	765

Specification of Increase (Program):

Preparations for the Museum's Opening (20 positions; \$765,000). The new National Air and Space Museum building, now under construction on the Mall, is scheduled to open in July 1976 as a major focus of Washington's Bicentennial program. An estimated six million visitors a year will visit this center of exhibition, exposition, and education. Preparatory work must be accelerated in FY 1974 to meet the 1976 deadline.

-Exhibit units must be conceived, designed, developed, tested in present public space, and stored for later installation in the new building. This requires an additional \$470,000.

-Key new scientific and technical staff are needed to present a balanced perspective to the public on air and space achievements (3 positions; \$65,000).

-Additional curatorial and mechanical staff must be employed to locate and collect needed objects for display; conduct the necessary research and documentation to assure the accuracy of exhibits, labels, and related museum publications; and to restore and prepare aircraft, spacecraft, and associated articles for display. Several hundred objects require such treatment, often requiring up to two man years for a single full-sized craft. This work needs an increase of 16 positions and \$172,000.

-Finally, the development of the large-scale planetarium/spacarium from the prototype to be opened in March 1973 will require one additional position and \$58,000.

1972 Actual.....	\$ 754,000
1973 Appropriation.....	\$1,070,000
1974 Estimate.....	\$1,852,000

In FY 1973, Congress appropriated \$40 million (\$13 million in construction funds and \$27 million in contract authority) for construction of the new National Air and Space Museum (NASM) building. This building is now under construction and on schedule to be substantially completed and ready for the installation of exhibits in late summer 1975.

When it opens in 1976, the new museum must contain enough inspiring, involving, and entertaining exhibits and presentations so that it can serve as a premiere air and space museum and as a feature attraction on the Mall during the Bicentennial year. The budget request for FY 1974 recognizes that work must be accelerated in FY 1974 to be ready for 1976. Exhibit units must be conceived, scripted, and designed. Aircraft and space vehicles must be restored. Special shows need to be developed for the Spacarium and ultra wide screen theater in the auditorium. The staff must be augmented to accomplish all of these objectives.

To meet these needs, a program increase of \$765,000 is requested for FY 1974. An additional amount of \$17,000 is sought for necessary pay for current staff.

Need for Increase

Exhibits Scripting, Design, and Advanced Development (\$470,000)

An accelerated exhibits program costing an additional \$470,000 (on a base of about \$150,000) will be initiated so that the July 4, 1976, opening of the new Museum building presents the message of air and space achievement in a total educational, inspirational, and involving context to the American public. FY 1974 is critical for the initiation of this major effort. Existing exhibit hall space, primarily in the Arts and Industries Building, must be used and reused to prototype and validate scripts, audio-visual modules, labels, graphics, and electromechanical demonstration units. These will, upon completion of a validation period, be dismantled, preserved, and stored so that the new Museum can open in 1976 with sufficient exhibits of a caliber matched to the high quality of the new building and the expectations of the American public.

Specifically, in FY 1974, the requested funds will be used to support the following activities:

1. Design and develop exhibit units for eight halls. These are: understanding air and space technology; V-STOLS, V-TOLS, and rotary wing aircraft; manned satellites and space probes; early rocketry; early commercial aviation; general aviation; the X airplanes; and World War II aviation.

2. Design, develop prototype of, and test central control system, including program and information tape systems, solid state control systems, and a central functional test and alarm system. This system will be used to monitor from a single central point the wide variety and range of operating exhibits, audio-visual, and visitor participation devices that will be used in order to detect and correct quickly malfunctioning equipment.

3. Rental of environmentally controlled exhibit storage space for pre-1976 storage of replaced exhibit units in the developmental program. An estimated 13,000 square feet of space will be required on a phased basis. Part year rental funds are requested in the FY 1974 budget.

4. Special evaluative studies of exhibits in order to assure maximum visitor education and enjoyment.

Science and Technology Department (3 positions; \$65,000)

This department will be expanded by the appointment of two curators and one clerical employee (\$53,000) and the addition of \$12,000 program funds. This increase is necessary to establish, for the Museum as a whole, a balanced perspective on air and space achievement. Major pre-1976 emphasis will be on preexhibit research for exhibit units of primary importance to the Museum opening date. For example, thematic units planned for design and construction, etc., which will need an intensive research and scripting input from this new department are:

1. The Earthbound Benefits from Flight
2. The X Airplanes
3. Understanding Air and Space Technology
4. Flight, Space, and Planetary Environments

All of the above and similar thematic units will require the curatorial supervision of personnel intensively trained and experienced in various scientific and technological disciplines. The proposed new curatorial staff are a geologist/geodesist (extraterrestrial and terrestrial) and a technology applications and utilization specialist.

Specimen Collections, Research, Preservation, and Restoration (16 positions; \$172,000)

A staff increase of nine mechanics and helpers (to the current staff of 23) is requested so that it will be possible to use most profitably the three years before the NASM opening date for the preparation of aircraft, spacecraft, electronic equipment, computers, and subsystems needed for NASM building exhibits. Restoration and preparation work is now underway on several air and spacecraft, but several hundred additional objects, including some 30-40 full size original craft, remain to be prepared for display. Many of these objects will individually require two man-years work. This additional staffing will cost \$64,000 with a further \$10,000 needed for restoration and preservation materials, services, and equipment.

Companion activities will include substantial efforts of the aeronautics and astronautics departments to locate and collect needed vehicles, subsystems, and components, and to curate the use of these in the exhibits program. Six additional curatorial positions and a clerk typist for these two departments will be required. The new professional positions include specialists in helicopter, STOL, hydrofoil, and air cushion vehicles, military and general aviation, aeronautical transportation, manned and unmanned satellites, and launch vehicles and guided missiles. The new positions will cost \$94,000 with \$4,000 for program support.

Experimentarium/Spacearium (1 position; \$58,000)

The transition of the small-scale experimentarium operation, to be opened to the public in the old Air and Space Building in March 1973, into the large-scale education and involvement role anticipated for the Spacearium in the new building will be initiated in FY 1974. The basic set of experimentarium audio-visuals will have been developed and an initial presentation will be scripted and automated. The requested small staff increase (a planetarium technician at a cost of \$10,000) plus \$48,000 for services and equipment will expedite and facilitate the development of sophisticated audio-visuals and more complex and innovative presentations. A fully staffed spacearium operation will emerge in FYs 1975 and 1976, but FY 1974 will represent major progress towards the goal.

CENTER FOR THE STUDY OF MAN

(Dollars in thousands)	Base FY 1973	Increase Requested	Est. FY 1974
No. of Permanent Positions.....	<u>12</u>	<u>3</u>	<u>15</u>
11 Personnel Compensation.....	117	39	156
12 Personnel Benefits.....	10	3	13
21 Travel & Trans. of Persons..	10	3	13
22 Transportation of Things....			
23 Rent, Comm. & Utilities.....	3	3	6
24 Printing and Reproduction...	1		1
25 Other Services.....	98	23	121
26 Supplies and Materials.....	2	1	3
31 Equipment.....	2	2	4
32 Lands and Structures.....			
41 Grants.....			
TOTAL	<u>243</u>	<u>74</u>	<u>317</u>

Analysis of Increase

Pay Increase.....	4
Program.....	70

Specification of Increase (Program):

Comparative Immigrant and Ethnic Studies Program (3 positions; \$70,000). Supported with temporary grant funds, this program is currently conducting basic research on immigration patterns (cause and effect) in the U.S., Canada, the circum-Caribbean area, and the Panama Canal Zone. As no major studies of immigrants have been made for over 20 years, the knowledge gained through this study will provide a current basis for the formulation of immigration policy and understanding its impact on social establishments. In order to continue this important research the addition of a program director, a research assistant, and a secretary (\$38,000) is requested. Support funds (\$32,000) for travel, short-term special research contracts, and field equipment are also requested.

1972 Actual.....	\$202,000
1973 Appropriation.....	\$243,000
1974 Estimate.....	\$317,000

The Center for the Study of Man coordinates research and development on a series of important anthropological programs. The American Indian Program is presently concerned primarily with the development of the 20 volume Encyclopedia of North American Indians. Another aspect of this program is the development of a system for providing scholarly educational materials concerning Indians to individuals, schools, and Indian communities. In addition, the Center helps to coordinate educational intercommunication among Indians themselves, with scholars, and with appropriate government and private agencies.

The urgent anthropology program identifies, publicizes, and finances, by means of small grants, needed research in geographical areas that are undergoing rapid environmental change as a result of urbanization, improved communications, better transportation, and other factors. The objective is to salvage and preserve information in selected rapidly changing areas before time and events erase our ability to understand the cultures that existed.

The cross-cultural data retrieval program is coordinating the efforts of numerous anthropologists and other human scientists in developing new, comparative information on population, environmental, and educational studies.

The FY 1974 budget requests an additional \$70,000 program funds for immigration and ethnic studies and \$4,000 necessary pay for staff.

Need for Increase

The comparative immigrant and ethnic studies program, initially funded through temporary grant funds, is carrying out basic research in the U.S., Canada, the

circum-Caribbean area and the Panama Canal Zone. It investigates the special conditions which stimulate immigration, assesses the contributions made by immigrants, and studies the effects of immigration on the source country and on the target country. Field research, archival research, and statistical methods are all used.

The research area covered by this program has been badly neglected by modern social science. There have been no major studies of new immigrants for over 20 years. Consequently, there is presently no knowledge of new immigrants from the Caribbean area despite the fact that they constitute a substantial portion of migrants to the U.S. It is imperative that studies be carried out on the patterns of migration especially from Central America and the Canal Zone because of the rapid changes presently taking place in those areas.

Comparative cultural ethnic studies will produce useful and important information for all agencies dealing with migrants. The knowledge gained from these studies will also be helpful in understanding labor recruitment, investment patterns, education, etc. These studies on basic immigration policy will be helpful to officials responsible for legislation in that field. The implications of migration for basic population policy will be thoroughly explored in this research.

In order to continue these studies a program director, a research assistant, and a secretary (\$38,000) are required with support funds (\$32,000) for travel, short-term special research contracts, and field equipment.

NATIONAL ZOOLOGICAL PARK

(Dollars in thousands)	Base FY 1973	Increase Requested	Est. FY 1974
No. of Permanent Positions.....	<u>286</u>	<u>-</u>	<u>286</u>
11 Personnel Compensation.....	2,924	92	3,016
12 Personnel Benefits.....	249	8	257
21 Travel & Trans. of Persons..	17	5	22
22 Transportation of Things....	3		3
23 Rent, Comm. & Utilities.....	178	5	183
24 Printing and Reproduction...	8	4	12
25 Other Services.....	136	77	213
26 Supplies and Materials.....	466	32	498
31 Equipment.....	184	16	200
32 Lands and Structures.....	1	1	2
41 Grants.....	<u> </u>	<u> </u>	<u> </u>
TOTAL	<u>4,166</u>	<u>240</u>	<u>4,406</u>

Analysis of Increase

Pay Increase.....	90
Program.....	150

Specification of Increase (Program):

Directions and Exhibits Program (\$93,000). Although major improvements to displaying the large and varied collections of animals must await the renovation of the Zoo, more immediate steps can be taken to produce educational exhibits that will identify and explain the collection. Funds are sought for contract design and fabrication of the kind of exhibits seen in modern zoos (\$70,000). An amount of \$23,000 is also requested for utilities and routine services, supplies, and equipment.

Operations and Maintenance (\$30,000). These funds are sought to meet the increasing costs of building materials, gardening and tree maintenance supplies, vehicle repair parts, miscellaneous equipment and to provide for seasonal temporary employees.

Zoological Programs (\$27,000). An amount of \$16,000 is needed to meet steadily rising prices of animal food and veterinary supplies. Uniforms and equipment for keepers and other personnel require an additional \$7,000. Funds are requested to cover the cost of contractual research projects and meeting page charges and other research publication costs (\$4,000).

1972 Actual.....	\$3,827,000
1973 Appropriation.....	\$4,166,000
1974 Estimate.....	\$4,406,000

The National Zoological Park was established in 1889 for the "advancement of science and the instruction and recreation of the people." To accomplish this mission, the Zoo exhibits a broad collection of animals (3,200 animals of over 1,100 species) representing one of the largest and most varied collections of exotic animals in existence, maintains an information and education program for the visiting public from all over the United States, and promotes scientific research, including biomedical programs, for increased scientific knowledge and for the health of the animals.

Continued progress has been made in improving the quality of the animal collection. The outstanding improvement was the acquisition of the two Giant Pandas. Greater emphasis is also being placed on increasing Zoo births. This is accomplished by pairing unmated animals, maintaining breeding groups, and conducting research in reproductive behavior of endangered species, such as the Golden Marmoset. Such a program not only reflects good conservation practices but is essential in view of increasing scarcity of many species and the higher costs to obtain them.

For FY 1974, a program increase of \$150,000 is requested to meet the rising costs of operating items and services; to provide for the fabrication of exhibits; to purchase scientific publications; and to hire temporary employees for seasonal work. An additional \$90,000 is required for necessary pay increases.

Need for Increase

Office of Director (\$93,000)

The office of the director plans and directs all Zoo programs. It coordinates the activities and functions of the planning and design office, develops and maintains the Zoo's educational program, and furnishes general administrative services. Administrative services include the protection service program and budget, fiscal, supply, and procurement functions. The animal acquisition program is under the direction of this office.

The Zoo's collection of animals has great public educational potential in subjects such as wildlife conservation. Educational exhibits are being constructed to illustrate to visitors the animals shrinking environment and the problems facing man in his attempt to revitalize the animals habitat. To identify and explain these living collections more effectively to the public by showing them in more natural settings, materials such as molded fiberglass are extensively used to simulate rocks, tree stumps, plants, etc. Plans for continuing the fabrication work, which began in FY 1973, will be accomplished by contractual service. Funds are requested for continuing to update the educational exhibits and to continue fabrication work (\$70,000).

Additional funds are also sought to meet the rising costs of utilities and routine contractual services, supplies, materials, equipment, and travel (\$23,000).

Operations and Maintenance (\$30,000)

The operations and maintenance department has responsibility for all maintenance and supporting services. These include:

- Maintenance and repairs: maintaining all heating plants and air conditioning and repairing 15 major buildings and a wide range of cages and other facilities. This division also performs renovation and minor construction, builds nest boxes, shipping crates, exhibits, and other needed items.
- Grounds: maintaining and improving the 156 acres of trees, lawns, shrubs, flower beds, and indoor plantings.
- Transportation and automotive maintenance: maintaining all automotive vehicles and operation of trucks and heavy equipment.

--Labor services: performing trash collection, sweeping of streets and walks, snow removal, and public and staff custodial services.

An amount of \$30,000 is needed to meet the increasing cost of services, supplies, and equipment for these essential duties and to provide for temporary mechanical, custodial, and other employees for seasonal work.

Department of Zoological Programs(\$27,000)

The department of zoological programs conducts animal care, animal health, pathology, and scientific research programs. The Zoo collection is a major scientific resource. For this reason, facilities and assistance are often provided to scientists from federal agencies and universities.

Additional funding (\$16,000) is requested to offset the rising costs of animal food and veterinary supplies. The replacement prices for sundry supplies, uniforms, and equipment have also risen sharply. Funds are sought to cover this increase (\$7,000).

Investigations undertaken in the Zoo and in research projects have yielded numerous scientific publications. It is frequently necessary to contract various portions of these research projects to professionals to avoid long-term commitment to personnel. Additional funds (\$4,000) are sought to cover the costs of publications and to contract portions of the research projects.

OFFICE OF THE ASSISTANT SECRETARY FOR HISTORY AND ART

(Dollars in thousands)	Base FY 1973	Increase Requested	Est. FY 1974
No. of Permanent Positions.....	9	-	9
11 Personnel Compensation.....	160	3	163
12 Personnel Benefits.....	15		15
21 Travel & Trans. of Persons..	4		4
22 Transportation of Things....			
23 Rent, Comm. & Utilities....	1		1
24 Printing and Reproduction...	1		1
25 Other Services.....	1		1
26 Supplies and Materials.....	2		2
31 Equipment.....			
32 Lands and Structures.....			
41 Grants.....			
TOTAL	184	3	187

Analysis of Increase

Pay Increase.....	3
Program.....	-

Specification of Increase (Program):

The Office of the Assistant Secretary for History and Art advises and assists the Secretary in planning, implementing and reviewing the progress of Smithsonian history and art programs. It also includes the American Studies program, which organizes and conducts a formal program of graduate education in the material aspects of American civilization, and the Joseph Henry Papers project to gather, edit, and publish the manuscripts of Joseph Henry (1797-1878), a pioneer American physicist and first Secretary of the Smithsonian Institution. No program fund increase is requested in the FY 1974 budget for these activities.

1972 Actual..... \$221,000
 1973 Appropriation.... \$184,000
 1974 Estimate..... \$187,000

The Office of the Assistant Secretary for History and Art advises and assists the Secretary in planning, implementing, and reviewing progress of Smithsonian history and art programs. This office assists in planning, coordinating, and reviewing the work of the Institution's various history and art bureaus and offices. The bureaus and offices reporting to the Assistant Secretary for History and Art are Archives of American Art, Cooper-Hewitt Museum of Decorative Arts and Design, Freer Gallery of Art, Hirshhorn Museum and Sculpture Garden, National Armed Forces Museum Advisory Board, National Collection of Fine Arts, National Museum of History and Technology, National Portrait Gallery, Office of Academic Studies, Office of American Studies, Office of Seminars, Smithsonian Archives, Joseph Henry Papers, and the Bicentennial of the American Revolution.

Included in the funding identified for this Office are the American Studies and the Joseph Henry Papers projects. The Office of American Studies organizes and conducts a formal program of graduate education in the material aspects of American civilization. This office also participates in the overall program of historical, archaeological, and architectural history research at St. Mary's City, Maryland, funded by the state of Maryland, National Endowment for the Humanities, Rockefeller Foundation, and other foundations. The Editor of the Joseph Henry Papers and his staff have been gathering and preparing for publication the manuscripts of Joseph Henry (1797-1878), a pioneer American physicist and first Secretary of the Smithsonian Institution. Volume one of a multi-volume set was published in December 1972. These are to be included in the documentary publications program of the National Historical Publications Commission.

No program fund increase is sought for this office. An amount of \$3,000 is requested for necessary pay.

NATIONAL MUSEUM OF HISTORY AND TECHNOLOGY

(Dollars in thousands)	Base <u>FY 1973</u>	Increase <u>Requested</u>	Est. <u>FY 1974</u>
No. of Permanent Positions.....	<u>161</u>	<u>3</u>	<u>164</u>
11 Personnel Compensation.....	2,151	82	2,233
12 Personnel Benefits.....	183	8	191
21 Travel & Trans. of Persons..	38		38
22 Transportation of Things....			
23 Rent, Comm. & Utilities.....	12		12
24 Printing and Reproduction...	6		6
25 Other Services.....	198	85	283
26 Supplies and Materials.....	22		22
31 Equipment.....	225	30	255
32 Lands and Structures.....			
41 Grants.....			
TOTAL	<u>2,835</u>	<u>205</u>	<u>3,040</u>

Analysis of Increase

Pay Increase.....	55
Program.....	150

Specification of Increase (Program):

Collections Management (3 positions; \$100,000). The national historical collections now contain more than 16,000,000 items which are inadequately preserved, stored, recorded, and catalogued. In order to ensure the security of the collections and increase their accessibility to researchers, a computerized inventory of the collections is being developed and overall registration procedures improved. For FY 1974 three positions (\$34,000)--a collections packer, an inspector and photographer, and a clerk typist--are required to improve receipt and registration procedures. In addition funds (\$66,000) are requested for the design and equipping of a modern records management and inventory system.

Prevention of Deterioration of Objects (\$50,000). Preservation of objects on exhibit and in study collections is an area of continuing concern. Minimal funding allowed for this purpose has limited preservation and restoration to stop-gap measures. To prevent further deterioration to collections and exhibits, improved storage equipment and methods (\$30,000) and contract services to augment in-house preservation work (\$20,000) are required.

1972 Actual.....	\$2,457,000
1973 Appropriation....	\$2,835,000
1974 Estimate.....	\$3,040,000

The National Museum of History and Technology (NMHT) occupies a unique position among the great museums of the world. As the repository of the National Collections documenting the historical and technological achievements of the American people, the Museum has responsibility for over 16,000,000 objects related to all facets of the American experience. Each of these objects must receive the highest level of professional care and preservation and must be stored and exhibited using the best techniques available.

Since opening in 1964, the NMHT has provided a variety and richness of public exhibits seen by over 50,000,000 visitors. The Museum annually receives more visitors than any other building in Washington, D. C. and millions more than any other museum in the world. As the most visited museum in the world, it will be host to almost 7,000,000 visitors during FY 1973. It is anticipated that this figure will more than double by the Bicentennial year, 1976.

As a center for the scholarly study of the history of American civilization and the history of science and technology, this Museum continues to support and encourage basic research and publication in many subject fields, ranging from early exploration to studies of contemporary American culture.

For FY 1974, an additional \$150,000 in program funds is requested for the development and operation of the new collections management and computerized inventory programs of the national historical collections and the prevention of deterioration of objects in storage and on public view. An amount of \$55,000 is needed for necessary pay for current staff.

Need for Increase

The NMHT has skyrocketed to a position of world prominence in the nine years it has been open to the public. Extremely heavy attendance has overtaxed this Museum's financial and staffing capability in some vital professional areas. It has limited the implementation of some innovative programs and demonstrations in public areas. Existing shortages must now be corrected to avert a reversal of the pattern of success.

The size of the NMHT collections continues to increase by tens of thousands of items each year. While maintaining its unique position in acquiring, preserving, and exhibiting the nation's historical treasures, the NMHT has developed a huge backlog of essential documentation and storage problems. Continually restricted annual budgets have precluded an adequate level of curating. In addition, some anticipated collections management expenditures had to be postponed due to the unexpectedly high costs of reopening fire damaged public exhibit areas. The national historical collections now contain more than 16,000,000 items which are inadequately preserved, stored, recorded, and cataloged. No overall museum-wide registration system now exists although a limited beginning has been made in FY 1973 with the establishment of an Office of Collections Management.

The purpose of the Collections Management Office of the National Museum of History and Technology is to plan, coordinate, and administer a total registration program for the security, cataloging, and preservation of all the objects curated by this museum. The size and variety of the collections, coupled with decades of outmoded procedures, require careful, planned research in developing a standardized,

modern system. All work elements and all associated records systems for the care and custody of objects will be analyzed and improved: receipt, fumigation, storage, relocation, packing and shipment, cataloging, etc. In addition, policies will be developed to assist the curators in determining (1) what is essential to collect in the future; (2) what can be eliminated--and how--from existing collections.

Descriptive cataloging by the curatorial units is essential as the first major step in developing a complete inventory of the National Collections. By late 1974, the first stages of system reorganization may be completed, and the massive computerization phase will begin. The ultimate goal of this long-range program is a computerized information retrieval system based on accurate cataloging, which will for the first time make NMHT holdings readily accessible to researchers.

For FY 1974, three positions--a collections packer, an inspector and photographer, and a clerk typist--are requested to improve receipt, shipment, registration procedures, and security controls. This cost (\$34,000) will augment the skeleton Office of Collections Management staff organized in FY 1973. It is estimated that the Office will be staffed by twelve persons by 1980. During FY 1974, funds (\$66,000) are also requested to design and begin to equip a secure museum-wide modern records management and inventory system.

During FY 1973, limited starts were made in replacement of inadequate storage equipment in collection storage rooms. This effort will be re-emphasized in FY 1974, and it is anticipated that the annual cost will be \$50,000 per year for five years; \$30,000 in new funding is requested for FY 1974 equipment replacement in collections needing unusual security.

Limited starts have also been made in securing the temporary services of outside experts in the fields of collection preservation and restoration of objects on exhibit and in study collections. Inadequate funding has limited preservation and restoration to stop-gap measures. As the new collections management program develops, increasing emphasis will be placed on this activity, which has the highest priority. Increased funding of \$20,000 is requested. Estimates indicate this activity will continue indefinitely at an annual cost of \$50,000 (\$30,000 of which is provided by the existing operating base).

NATIONAL COLLECTION OF FINE ARTS

(Dollars in thousands)	Base <u>FY 1973</u>	Increase <u>Requested</u>	Est. <u>FY 1974</u>
No. of Permanent Positions.....	<u>75</u>	<u>2</u>	<u>77</u>
11 Personnel Compensation.....	982	48	1,030
12 Personnel Benefits.....	85	4	89
21 Travel & Trans. of Persons..	22		22
22 Transportation of Things....	15		15
23 Rent, Comm. & Utilities.....	1		1
24 Printing and Reproduction...	7		7
25 Other Services.....	172	25	197
26 Supplies and Materials.....	37	20	57
31 Equipment.....	75		75
32 Lands and Structures.....			
41 Grants.....			
TOTAL	<u>1,396</u>	<u>97</u>	<u>1,493</u>
<u>Analysis of Increase</u>			
Pay Increase.....		22	
Program.....		75	

Specification of Increase (Program):

Renwick Gallery (2 positions; \$75,000). Currently, the exhibition program of the Renwick Gallery is dependent on the support that can be provided by the existing, limited NCFa staff. A permanent support staff with an adequate budget must be provided if the Renwick's important program is to continue. A curator of exhibits is needed (\$16,000) to supervise the production of Renwick exhibitions, and \$40,000 is required for exhibition costs. Rising costs in installation, packing, shipping, and insurance have had a particularly acute effect on the Gallery which is primarily concerned with borrowed objects of considerable bulk. To extend the NCFa's effective public education program to the Renwick Gallery, an assistant curator of education (\$14,000) and \$5,000 of additional funds for materials and other expenses are necessary.

1972 Actual.....	\$1,221,000
1973 Appropriation.....	\$1,396,000
1974 Estimate.....	\$1,493,000

The National Collection of Fine Arts (NCFa), the oldest national collection of art (containing some 15,000 works of art), is devoted to the conservation, study, and presentation of American painting, sculpture, prints and drawings, and, in the newly opened Renwick Gallery, American design and crafts. It presents exhibitions both in this country and abroad, maintains an active program of public education at all levels, engages in research and publication on American artists, and maintains (with the National Portrait Gallery) a widely-used reference library and a laboratory for conservation and conservation research in American painting.

Almost all exhibitions are formulated and produced in the museum itself. During FY 1973, twenty-seven exhibitions will be presented in the galleries, several of them major exhibitions with major catalogs; such as, "The Hand and the Spirit," "Alfred Maurer," "Lilly Martin Spencer," "Objects for Preparing Food," and "The Ceramic Art of Natzler." The schedule thus far for FY 1974 includes the production of fourteen exhibitions.

In addition to the staging of exhibitions in FY 1973 and 1974, the NCFa is continuing its program of opening new galleries for more extensive display of the permanent collections. Eight permanent galleries were installed in FY 1973. Seven of these spaces had never been used before as galleries. The Lincoln Gallery was damaged by Metro construction. It constitutes almost half of the permanent display area and will be redesigned, taking into account the new entranceway coming from the Portrait Gallery. The NCFa also is moving forward with a permanent Gallery of Portrait Miniatures. There is an urgent need for adequate storage of the collection not on view. This will require the installation of sliding racks in the existing storage area and the modification of an area of the garage for storing frames and large sculpture.

The public education program is an essential and closely integrated part of the museum's operation. The staff maintains close contact with the District of Columbia schools and with educational programs elsewhere. It also trains and supervises a crew of eighty-five volunteer docents for the two museums. During the three months' period, October, November, and December, 1972, these docents conducted one-hundred and fourteen tours for nearly five thousand visitors.

In FY 1973 the museum added to its program of visiting scholars a program of museum training, offering practical internship in all phases of museum operation. Participants in the program include nine students from George Washington University, thirteen summer interns, and two full-year interns.

The requested program increase of \$75,000 will be used to support the exhibition and education programs of the Renwick Gallery, opened in January 1972. The operation of an active and effective program in this separate, historic building requires support not provided for in the previous NCFa budgets. An additional \$22,000 is needed for pay for the existing staff.

Need for Increase

The Renwick Gallery is devoted to the study and exhibition of American craft and design, both past and present. A recent popular exhibition "American Pieced Quilts" is illustrated on a following page. It also hosts small exhibitions of

art from other countries. During the first full year of operation, it has been visited by about 200,000 persons. Its active exhibition program, calling attention to American crafts and craftsmen, has been supported by the production staff of the NCFA, which is limited even in its ability to respond to NCFA needs. A permanent support staff with an adequate budget must be provided if the Renwick's important program is to continue. A curator of exhibits is needed (\$16,000) to supervise the production of Renwick exhibitions, and \$40,000 is required for exhibition costs. Rising costs in installation, packing, shipping, and insurance have had a particularly acute effect on the Renwick Gallery which is concerned primarily with borrowed objects of considerable bulk. To extend the NCFA's effective public education program to the Renwick Gallery, an assistant curator of education (\$14,000) and \$5,000 of additional funds for materials and other expenses are necessary.

NATIONAL PORTRAIT GALLERY

(Dollars in thousands)	<u>Base</u> <u>FY 1973</u>	<u>Increase</u> <u>Requested</u>	<u>Est.</u> <u>FY 1974</u>
No. of Permanent Positions.....	<u>43</u>	<u>-</u>	<u>43</u>
11 Personnel Compensation.....	627	15	642
12 Personnel Benefits.....	53	1	54
21 Travel & Trans. of Persons..	20		20
22 Transportation of Things....	19		19
23 Rent, Comm. & Utilities.....	10		10
24 Printing and Reproduction...	5		5
25 Other Services.....	96		96
26 Supplies and Materials.....	58		58
31 Equipment.....	164		164
32 Lands and Structures.....			
41 Grants.....			
TOTAL	<u>1,052</u>	<u>16</u>	<u>1,068</u>

Analysis of Increase

Pay Increase.....	16
Program.....	-

Specification of Increase (Program):

The National Portrait Gallery's activities include: (1) the expansion and care of its collections; (2) public education through the exhibition of the permanent collection and specially organized temporary exhibitions; (3) the preparation and national distribution of scholarly and popular publications related to these exhibitions; and (4) the compilation of a definitive Catalog of American Portraits, constituting a unique information resource in the areas of American history and biography, art, and iconography. No program fund increase is sought in the FY 1974 budget request.

1972 Actual.....	\$ 924,000
1973 Appropriation.....	\$1,052,000
1974 Estimate.....	\$1,068,000

The National Portrait Gallery is the only national museum of American history that tells the history of this nation primarily in terms of the men and women who made that history. The portraits of these men and women are crucial documents of historical evidence and bear strong witness to the roles these people have played in the American experience.

The Gallery's activities include: (1) the expansion and care of its collections; (2) public education through the exhibition of the permanent collection and specially organized temporary exhibitions; (3) the preparation and national distribution of scholarly and popular publications related to these exhibitions; and (4) the compilation of a definitive Catalog of American Portraits, constituting a unique information resource in the areas of American history and biography, art, and iconography.

Nearly 200 portraits were added to the permanent collection in FY 1972 and 1973, including 69 by gift. Among the gifts were portraits of two Presidents new to the collection, Grover Cleveland and Richard Nixon; purchases included portraits of Presidents Zachary Taylor and Thomas Jefferson, also hitherto unrepresented. Curatorial researchers and the staff and facilities of the Catalog of American Portraits have provided expert assistance in uncovering and studying portraits, locating items for special exhibitions, and responding to a variety of public requests for information. Wider knowledge of the Gallery's services and programs will help to elicit more gifts, but substantial federal funds also are vital for the acquisition of portraits which can only be added by purchase, if the Gallery is to build a collection worthy of the nation's history.

"If Elected..." Unsuccessful Candidates for the Presidency, 1796-1968, including 80 portraits and over 500 objects related to candidates and campaigns, was a highly popular exhibit visited by over 150,000 persons. A 512-page monograph on the subject, an educational booklet, slide set, and a teaching guide accompanied the show and are being distributed nationally. A smaller exhibition and related publication on the Lazzaroni, a group of mid-nineteenth century scientists, were prepared in conjunction with the meetings in Washington of the American Association for the Advancement of Science. In April 1973 the Gallery will present The Afro-American in the Age of Revolution, 1770-1800, an exhibition detailing the role played by blacks during the formative years of our nation. Related educational materials also will be produced.

In April the Gallery also will have completed a book entitled "In the Minds and Hearts of the People" - Prologue to War 1760-1774 to be published in cooperation with the New York Graphic Society. It will accompany an exhibition of the same title to open in the Spring of 1974, which will be the first of the Gallery's Bicentennial exhibitions. The regular Gallery exhibitions scheduled for FY 1974, now in various stages of preparation, include "Contemporary American Portraits", "Two Centuries of American Self-Portraits", and a small exhibition marking the sesquicentennial of the signing of the Monroe Doctrine. These exhibitions will be accompanied by monographs and other educational publications and materials available for national distribution.

The expanded exhibition schedule for FY 1974 reflects the addition of 10,000 square feet of exhibition area through renovation of the 3rd floor mezzanine area and the air conditioning and refurbishing of the 7th Street first floor area. In addition to the special exhibitions listed above, the Gallery plans to up-grade the installation of its permanent collection in a manner more closely paralleling these exhibitions, adding associative items and audio visual materials.

The education department has trained two dozen volunteer docents and for the first time offers regularly scheduled weekday tours of the permanent collection as well as a variety of special educational services both in the museum and in classrooms. These programs reached over 3,000 students during the first three months of the current school year, as well as several hundred adults. Plans for FY 1974 include an orientation room on the history and purposes of portraiture, a workshop program exploring methods of executing portraits, the preparation of educational publications and slide kits related to FY 1974 special exhibitions, as well as the permanent collection, for school and public use.

No program increase is sought for this Gallery. An amount of \$16,000 is requested for necessary pay purposes.

HIRSHHORN MUSEUM AND SCULPTURE GARDEN

(Dollars in thousands)	Base FY 1973	Increase Requested	Est. FY 1974
No. of Permanent Positions.....	23	14	37
11 Personnel Compensation.....	350	138	488
12 Personnel Benefits.....	28	12	40
21 Travel & Trans. of Persons..	10	5	15
22 Transportation of Things....	2	9	11
23 Rent, Comm. & Utilities.....	48	-24	24
24 Printing and Reproduction...	1	4	5
25 Other Services.....	110		110
26 Supplies and Materials.....	14	7	21
31 Equipment.....	603	2	605
32 Lands and Structures.....			
41 Grants.....			
TOTAL	1,166	153	1,319

Analysis of Increase

Pay Increase.....	3
Program.....	150

Specification of Increase (Program):

Preparations for Opening and Operating the Museum (14 positions; \$150,000). A continued phased increase in staff is required to provide the professional and curatorial support needed to organize and activate the new Museum, scheduled to open in 1974. The requested 14 additional personnel (\$147,000) are primarily technical and support staff including museum specialists, technicians and aides, clerical personnel, and personnel to staff conservation and framing shops. Also included are professional level personnel to supervise the exhibits and educational programs. Support funds in the amount of \$3,000 are also requested. No additional appropriations are sought for furnishing and equipping the Museum and Sculpture Garden. Base funds are adequate to meet this need.

1972 Actual.....	\$ 623,000
1973 Appropriation....	\$1,166,000
1974 Estimate.....	\$1,319,000

The Hirshhorn Museum and Sculpture Garden, now under construction on the Mall, will house a magnificent gift to the nation of outstanding modern paintings and sculpture. Although the renowned sculptures in the collection range historically from antiquity to the present, the depth of the representation of major sculptures of the nineteenth and twentieth centuries is unique. The paintings in the collection are primarily twentieth century. Beginning with such precursors as Thomas Eakins and Winslow Homer, the course of modern American painting is extensively covered. Complementing the American section is a strong group of significant European paintings of the past three decades. For museum officials, scholars, students, and publishers, the Hirshhorn Museum collection continues to be a major source of documentation in the field of modern art.

The Act of November 7, 1966, authorized construction of the Museum and designated the Mall site. Building construction began in March 1970 and is estimated to be substantially completed in June 1973. All phases of the work are presently geared to prepare for the opening of the Museum by the spring of 1974. See Figure I for the schedule of major activities.

The requested program increase of \$150,000 represents the overall requirements for the addition of necessary staff and for other expenditures related to occupying the completed building and scheduling the opening exhibition in FY 1974. An additional amount of \$3,000 is sought for necessary pay for the current staff.

Need for IncreasePreparing for the Opening and Operating of the Museum (14 positions; \$150,000)

The operating staff of the Hirshhorn Museum and Sculpture Garden must be expanded in FY 1974 to provide the professional and curatorial support needed to organize and activate a major Museum. Additional staff will be required to conduct a full and balanced program of exhibitions, educational activities, research and curation, and technical support.

The budget plans for FY 1973 had contemplated a staffing increase from 21 to about 35 positions to be funded in part by the savings resulting from the planned reduction of expenditures for conservation and restoration of the collections. In view of the delay in the completion and occupancy of the building, the FY 1973 staffing level will be held to about 23 positions with an accelerated build-up in FY 1974 to coincide with the completion of the building and the scheduled opening exhibition date of May 1974. Savings resulting from this action have been used to obtain essential furnishings and equipment for the building interior, thus reducing the level of additional new funds required for this purpose (see following section).

The requested 14 additional personnel in the 1974 budget are primarily technical and support staff including museum specialists, technicians and aides, clerical personnel, and personnel to staff conservation and framing shops. Also included are professional level personnel to supervise the exhibits and educational programs (\$147,000).

Funds are in the budget request for other contractual service costs related to the collections, photography to document the collections for exhibits and research purposes, and supplies and materials to operate the new Museum. Funds have also been included in this request for transportation and movement of household goods of personnel transferring with the collection to Washington, D. C., as well as for essential professional travel of senior administrative and curatorial personnel (\$3,000).

Furnishing and Equipping the Museum and Sculpture Garden (No new funds requested)

Construction funding of \$16,000,000 (\$15,000,000 appropriated by Congress and a \$1,000,000 gift by Mr. Hirshhorn) will provide a basic museum building, including necessary utility equipment, i.e. heating, air conditioning, etc. This amount does not permit the museum to be outfitted to the degree necessary for public exhibitions and museum programs. It does not provide storage facilities for the collection, furnishings and equipment for exhibit and other public areas, or office and laboratory furniture and equipment. The FY 1973 budget request identified a nonrecurring requirement for about \$1,400,000 for these purposes. Savings in the base as a result of the decline in expenditures for conservation and restoration of the collection enabled the Museum to purchase about \$160,000 of storage screens in FY 1972. The FY 1973 appropriation of \$500,000 specifically for equipment and furnishings, combined with continued personnel cost savings in the base, will permit the Museum to purchase an additional \$600,000 of these items in the current year (including the remainder of the storage screens). The balance of the furnishings and equipment will be purchased in FY 1974. No increase in appropriations will be required for this purpose.

The FY 1974 funds will be used for furnishings and equipment for exhibit galleries and laboratory spaces (\$145,000); security systems and auditorium equipment (\$117,000); furniture for public areas (\$213,000); and other items such as tour guide systems (\$125,000).

Figure I
JOSEPH H. HIRSHHORN MUSEUM & SCULPTURE GARDEN
Schedule of Major Activities - FY 1972-1974

FY 1972		FY 1973				FY 1974			
1971 JULY	1972 JAN	1972 JULY	1972 AUG	1973 JAN		1973 JUNE	1973 JULY	1974 APR	1974 MAY
Building Construction									
Planning and Installation of Opening Exhibition									
Equipment - Furnishings for Interior									
Catalog of Opening Exhibition - Manuscript to Publisher 8/1/72									
Transfer of Collection to Wash.- Nov. '73									
Inventory of Collection (Computerized)									
Research Permanent Collection									
Develop Education Program									

FREER GALLERY OF ART

(Dollars in thousands)

	Base FY 1973	Increase Requested	Est. FY 1974
No. of Permanent Positions.....	14	-	14
11 Personnel Compensation.....	123	5	128
12 Personnel Benefits.....	11		11
21 Travel & Trans. of Persons...			
22 Transportation of Things....			
23 Rent, Comm. & Utilities....			
24 Printing and Reproduction...			
25 Other Services.....	9		9
26 Supplies and Materials.....	14		14
31 Equipment.....	29		29
32 Lands and Structures.....			
41 Grants.....			
TOTAL	186	5	191

Analysis of Increase

Pay Increase.....	5
Program.....	-

Specification of Increase (Program):

The Freer Gallery of Art has a continuing program to search for works of art of the highest quality to be added to the collections, especially Far and Near Eastern Art, and to display, conserve, and study the objects in the collection as keys to understanding the civilizations that produced them. No program fund increase is requested for FY 1974.

1972 Actual..... \$ 78,000
 1973 Appropriation..... \$186,000
 1974 Estimate..... \$191,000

The Freer Gallery of Art houses one of the world's most distinguished collections of Far and Near Eastern art. Included in the collection are over 10,000 works of art from China, Japan, Korea, India, and the Near East. The collection covers paintings, sculptures, and other objects in stone, wood, lacquer, jade, pottery, porcelain, bronze, gold, and silver. Items not currently on exhibition and the library of 40,000 volumes are available and used extensively by the Gallery's staff and numerous visiting scholars and students.

The two-fold program envisaged by the Gallery's founder involves the continuing search for works of the highest quality to be added to the collections and the study and display of these objects as keys to understanding the civilizations that produced them. As a result of international developments, interest in the cultures of the Far and Near East in the United States has grown at a substantial rate. Each year there has been an increase in the number of people who visit the Gallery and in the number of collectors, students, and scholars who ask staff members for assistance and use the collection, library and conservation facilities.

In FY 1973 significant improvements have been made in the level of Federal funding for the Gallery consistent with the terms of the Deed of Gift. These additional funds are of great assistance in carrying forward the basic program of care and maintenance of the collection and the building, as well as in permitting the Gallery to develop its community service and scholarship activities. Similar improvements made in the level of private income as a result of new investment policies will strengthen the Gallery's ability to augment its collections, and produce research publications and exhibitions as part of the 50th Anniversary program.

These programs will continue in FY 1974. No program fund increase is sought in the budget year. An amount of \$5,000 is requested for necessary pay purposes.

ARCHIVES OF AMERICAN ART

(Dollars in thousands)	Base <u>FY 1973</u>	Increase <u>Requested</u>	Est. <u>FY 1974</u>
No. of Permanent Positions.....	<u>11</u>	<u>1</u>	<u>12</u>
11 Personnel Compensation.....	136	18	154
12 Personnel Benefits.....	11	1	12
21 Travel & Trans. of Persons..	4		4
22 Transportation of Things....	2		2
23 Rent, Comm. & Utilities.....	10		10
24 Printing and Reproduction...	17		17
25 Other Services.....	5	8	13
26 Supplies and Materials.....	3	2	5
31 Equipment.....	2	4	6
32 Lands and Structures.....			
41 Grants.....			
TOTAL	<u>190</u>	<u>33</u>	<u>223</u>

Analysis of Increase

Pay Increase.....	3
Program.....	30

Specification of Increase (Program):

Development of Western Regional Office and Other Archival Costs (1 position; \$30,000). The Western Regional Office, located in the deYoung Museum in San Francisco, has been opened on a part-time basis. In order to more fully develop the ability to locate,

attract and acquire valuable collections as well as provide a center for scholars to study American Art, this regional office requires the services of a full-time director (\$16,000) and funds for other support costs (\$4,000). This branch makes available the full resources of the Archives to all interested publics.

The Archives is continually seeking new additions to its current collections, estimated to be three million items on microfilm, five million original items, taped interviews, and photographs. During FY 1974 costs of acquiring new additions are expected to be \$5,000. These costs are for microfilm, equipment, and processing expenses.

The Archives oral history program, begun in 1959 through grants from the art community, now has more than twelve hundred transcripts of interviews with artists, dealers, collectors and administrators. In order to continue this important program, funding of \$5,000 for interviewing and processing costs is requested.

1972 Actual.....	\$193,000
1973 Appropriation.....	\$190,000
1974 Estimate.....	\$223,000

The Archives of American Art is committed to aiding research and scholarship in the history of the visual arts in this country from prior to the Revolutionary War period to the present time. It acquires, organizes, and preserves the primary documentation needed by historians--the correspondence, diaries, business papers, and photographs of painters, sculptors, critics, dealers, and collectors, and the formal records of galleries, museums, and art societies. These collections of papers are cataloged, microfilmed, and made available to scholars. Several million original and microfilm items are now held.

The processing and chief reference center of the Archives is located in space provided by the National Collection of Fine Arts and the National Portrait Gallery library. In order to make its holdings readily accessible to scholars throughout the country and to develop a systematic collecting program, small regional centers are currently maintained in Boston, New York, Detroit, and on a part-time basis, San Francisco.

The Archives anticipates income from private funds of about \$135,000 in FY 1973. This income is used to support Archives' activities, such as quarterly publications and distribution of the Archives' Journal, certain salaries, and specialized acquisitions. It supplements on a matching basis activities supported by Federal appropriations such as cataloging, information retrieval, and reference services.

An increase of \$30,000 would be used to develop the Archives' Western regional office as a collecting and reference center for students west of the Mississippi, to provide for an expected rise in the microfilming workload in the Detroit and Boston centers, and to continue the Archives' oral history program.

Need for Increase

FY 1971 was the Archives of American Art's first year as a bureau of the Smithsonian Institution. It has become an integral part of the Smithsonian's research facilities and its resources are being intensively used by staff and fellows of the National Collection of Fine Arts, the National Portrait Gallery, and the National Gallery of Art, faculty and graduate students across the country, and by scholars from such places as Chicago, London, Munich, New Orleans, New York, Paris, Seattle, San Francisco, Stockholm, and Tokyo. A large increase in use of the Archives' holdings has been experienced in the various regional offices and many additional collections of records have been received through their efforts.

Regional offices are the chief means of locating, attracting, and acquiring collections of artists' and dealers' personal papers. They are also the research centers where students in that locale use the Archives' resources on microfilm. The western regional center with a filmed set of Archives' holdings is now established in rent-free quarters at the DeYoung Museum in San Francisco, but is operating on a highly restricted basis and is open only two days a week under a part-time clerk, paid from private funds. Personal visits and letters of inquiry from students and scholars in the west provide concrete evidence of a vigorous demand in that region for the documentary records from all parts of the country offered by the Archives. A west coast area director (\$16,000 and support costs of \$4,000) is required to maintain the center as a fully developed Archives facility, to initiate a collecting program, and to serve researchers more fully. Private funds will provide additional staff in this office.

Microfilming projects anticipated in the Detroit, Boston, and New York regional offices will require equipment and services not now available. An additional funding of \$5,000 will make it possible to acquire on film several large and significant collections of records such as those of the National Academy of Design, several major New York galleries, and art related papers owned by the New York Historical Society and the Massachusetts Historical Society. The Archives of American Art's oral history program, begun in 1959, has become a historically significant activity. At the present time, the oral history collection comprises more than twelve hundred transcripts of interviews with artists, dealers, collectors, and administrators. This program has been funded primarily through grants from the art community which are no longer available. The requested \$5,000 would be used to continue this important program in oral history.

NATIONAL ARMED FORCES MUSEUM ADVISORY BOARD

(Dollars in thousands)	Base FY 1973	Increase Requested	Est. FY 1974
No. of Permanent Positions.....	<u>6</u>	<u>-</u>	<u>6</u>
11 Personnel Compensation.....	122	2	124
12 Personnel Benefits.....	10		10
21 Travel & Trans. of Persons..	1		1
22 Transportation of Things....			
23 Rent, Comm. & Utilities.....	1		1
24 Printing and Reproduction...			
25 Other Services.....			
26 Supplies and Materials.....			
31 Equipment.....			
32 Lands and Structures.....			
41 Grants.....	<u> </u>	<u> </u>	<u> </u>
TOTAL	<u>134</u>	<u>2</u>	<u>136</u>

Analysis of Increase

Pay Increase.....	2
Program.....	-

Specification of Increase (Program):

The Board advises and assists the Regents of the Smithsonian Institution on matters relating to the establishment of an Outdoor Bicentennial Museum and a study center to be designated the Dwight D. Eisenhower Institute for Historical Research. No program fund increase is requested for FY 1974.

1972 Actual.....	\$131,000
1973 Appropriation....	\$134,000
1974 Estimate.....	\$136,000

The National Armed Forces Museum Advisory Board, established by Public Law 87-186 (approved August 30, 1961), advises and assists the Board of Regents of the Smithsonian Institution on matters relating to establishment of a National Historical Museum Park, to be known as the Bicentennial Outdoor Museum and a study center to be designated the Dwight D. Eisenhower Institute for Historical Research.

No program fund increase is requested for FY 1974. Planning for the Bicentennial Outdoor Museum will be continued. An amount of \$2,000 is required for necessary pay.

SMITHSONIAN ARCHIVES

(Dollars in thousands)	<u>Base FY 1973</u>	<u>Increase Requested</u>	<u>Est. FY 1974</u>
No. of Permanent Positions.....	<u>7</u>	<u>-</u>	<u>7</u>
11 Personnel Compensation.....	81	1	82
12 Personnel Benefits.....	7		7
21 Travel & Trans. of Persons..	2		2
22 Transportation of Things....			
23 Rent, Comm. & Utilities.....			
24 Printing and Reproduction...	6		6
25 Other Services.....	3		3
26 Supplies and Materials.....	8		8
31 Equipment.....			
32 Lands and Structures.....			
41 Grants.....			
TOTAL	<u>107</u>	<u>1</u>	<u>108</u>

Analysis of Increase

Pay Increase.....	1
Program.....	-

Specification of Increase (Program):

The Archives' staff identifies permanently valuable records throughout the Institution and preserves and maintains them as a research resource for the staff and scholarly community. No program fund increase is being sought in FY 1974.

1972 Actual..... \$ 81,000
 1973 Appropriation..... \$107,000
 1974 Estimate..... \$108,000

The Smithsonian Archives is the official memory of the Institution and a valuable research resource for scholars working in the history of American science and in the history of the cultural institutions which are under Smithsonian care. Exclusive of materials located in the research and curatorial areas, which total millions of documents, the Archives' current holdings amount to over one million documents from the 1830's to the present. The Archives' staff identifies permanently valuable records throughout the Institution, preserves them for historical, administrative, legal, and fiscal value, and provides service on these records to staff and to the scholarly community.

Using present staff, the program plan for FY 1974 undertakes to improve the Archives' capabilities to identify, preserve, and make available those documents which the Smithsonian holds throughout its many divisions. This program will be effected by utilizing the expertise of the staff developed over the past few years, with emphasis on modern techniques of archival administration. Major objectives are completion of a guide to the archives of the National Museum of Natural History, establishment of an Institution-wide information system for archives, and distribution of microfilm copies of Smithsonian archives with special historical research value.

No funding increase is being requested for this activity except necessary pay (\$1,000).

OFFICE OF THE ASSISTANT SECRETARY FOR PUBLIC SERVICE

(Dollars in thousands)	Base FY 1973	Increase Requested	Est. FY 1974
No. of Permanent Positions.....	6	2	8
11 Personnel Compensation.....	90	18	108
12 Personnel Benefits.....	8	2	10
21 Travel & Trans. of Persons..	3		3
22 Transportation of Things....			
23 Rent, Comm. & Utilities.....			
24 Printing and Reproduction...			
25 Other Services.....	3		3
26 Supplies and Materials.....	1		1
31 Equipment.....	1		1
32 Lands and Structures.....			
41 Grants.....			
TOTAL	106	20	126

Analysis of Increase

Pay Increase.....	2
Program.....	18

Specification of Increase (Program):

Expansion and extension of Public Service Programs (2 positions; \$18,000). The Assistant Secretary for Public Service guides and supports the directors of public service units in the development of programs to advance the Institution's objectives in education and information. With the expansion of these programs and the subsequent increase in public interest, an additional clerk-typist (\$7,000) is required to handle the increasing volume of clerical duties. In addition, to permit the utilization of modern communications technology for the extension of educational services to school children and others throughout the nation, a video program coordinator (\$11,000) is also requested.

1972 Actual.....	\$147,000
1973 Appropriation.....	\$106,000
1974 Estimate.....	\$126,000

The position of the Assistant Secretary of Public Service was established in 1968 to identify and consolidate those organizations which comprise the Institution's popular educational, extension, and information services. These units include: Anacostia Neighborhood Museum, Division of Performing Arts, Office of Elementary and Secondary Education, Office of International Activities, Office of Public Affairs, Reading is Fundamental, the Smithsonian Associates, the Smithsonian Press and the Smithsonian Magazine.

The Assistant Secretary for Public Service guides and supports the directors of public service units in the development of programs which advance the Institution's objectives in education and information, reaching beyond museum exhibition. A program increase of \$18,000 is requested for this office. Necessary pay in the amount of \$2,000 is also sought.

Need for Increase

The Institution is continuing experiments in community and neighborhood museum support. In addition to influencing the future development of exhibitions and programs throughout the Smithsonian, experience obtained through these experiments is also beneficial to other major museums seeking to serve broader social and economic publics. Educational services to schools, performances on the Mall, activities for Smithsonian Associates, and a widening range of publications and information about Smithsonian collections, research, and expeditions are undertakings which tend to reinforce one another and make the Institution's resources increasingly accessible to the public, many of whom may visit our museums infrequently.

An additional position (\$7,000) is requested to handle the increasing volume of clerical duties being generated by these expanding programs and their growing popularity with the public.

The Smithsonian Institution is concerned with the diffusion of knowledge covering diverse academic disciplines. It is vital that modern communications technology be used for the extension of educational services based on Smithsonian research and scholarship. Additional funding in the amount of \$11,000 is requested to support a special assistant for educational video. This individual will be responsible for establishing a pilot level extension program using new approaches in the communications media to reach school children throughout the nation and for working with external organizations in the development of programs that would carry the resources of the Smithsonian to people who could not normally come to the Institution themselves.

ANACOSTIA NEIGHBORHOOD MUSEUM

(Dollars in thousands)	Base FY 1973	Increase Requested	Est. FY 1974
No. of Permanent Positions.....	<u>18</u>	<u>3</u>	<u>21</u>
11 Personnel Compensation.....	173	32	205
12 Personnel Benefits.....	15	3	18
21 Travel & Trans. of Persons..	2		2
22 Transportation of Things....			
23 Rent, Comm. & Utilities.....	28		28
24 Printing and Reproduction...	3		3
25 Other Services.....	24		24
26 Supplies and Materials.....	13		13
31 Equipment.....	9		9
32 Lands and Structures.....			
41 Grants.....			
TOTAL	<u>267</u>	<u>35</u>	<u>302</u>

Analysis of Increase

Pay Increase.....	4
Program.....	31

Specification of Increase (Program):

Education Department (1 position; \$6,000). The Museum offers education programs for all age groups--preschool to senior citizen--and helps to plan school enrichment activities with area school teachers. While primarily serving Anacostia schools, the Museum has received requests for assistance from schools throughout the greater Washington area. Such rising interest and participation in museum programs has resulted in an increased clerical and administrative workload. One clerk typist (\$6,000) is requested for this department which currently has no clerical personnel.

Exhibits Design and Production Laboratory (2 positions; \$25,000). This laboratory, which is scheduled to open in FY 1974, will train inner-city minority group members in exhibits design and production. It is anticipated that exhibits produced at the laboratory will help to extend the relevance of Smithsonian exhibits and Bicentennial presentations to the entire community. An exhibits specialist (\$14,000) is needed to assist with the development of the Bicentennial exhibits, as well as other exhibits at Anacostia; and an administrative assistant (\$11,000) is needed to manage detailed correspondence and accounts, related to the laboratory's operation.

1972 Actual.....	\$206,000
1973 Appropriation.....	\$267,000
1974 Estimate.....	\$302,000

The Anacostia Neighborhood Museum was opened in 1967 to reach out to new audiences who are either unaware of museum resources, physically too far from them, or, as inhabitants of low-income population density centers, do not see the

interest or relevance of museums. Since its opening, the museum has entertained and instructed about 250,000 visitors and today offers an expanding array of classes and youth programs. Anacostia has linked its research, exhibit, and education activities directly to the needs of the community and has assured a fresh, nontraditional approach to the role of the museum.

The FY 1974 budget contains a request for an additional \$31,000 for three new positions and \$4,000 for necessary pay for current staff.

Need for Increase

The Museum offers education programs for all age groups and helps area teachers to plan school enrichment activities. A photo of the new children's room is shown on a following page. Activities in this area range from flannelboard presentations on black history and demonstrations in soap-making to panel discussions, seminars, and live programs featuring the performing arts. Another important phase in the Museum's education program is performed by the mobile division, which takes the museum into the community through exhibits, pottery demonstrations, a speaker's bureau, teaching aids, and video tape presentations. While the mobile division primarily serves Anacostia schools, many requests have recently been received and fulfilled from schools in the greater Washington area, including Virginia and Maryland.

Rising interest and participation in museum programs have resulted in an increased clerical and administrative workload in the education department. Presently this work is being performed by staff professionals or teenage volunteers. One clerk typist and funds in the amount of \$6,000 are requested to permit a more efficient and economical support effort.

In FY 1974, the Museum plans to establish an exhibits design and production laboratory using funds appropriated to the Smithsonian and anticipated foundation support. The primary objectives of the laboratory are: to train inner-city minority group people in exhibits design and production (which includes teaching skills such as cabinetwork, carpentry, metalwork, spraypainting, silk-screening, model-making, and design) and to place these persons in jobs in the museum community or private industry; and to have minority group members help plan and execute exhibits and related educational materials which describe their contributions to the American experience for the Bicentennial celebration.

In the field of exhibits preparation, there is an urgent demand for creative people who are sensitive to the needs of inner city minority groups. It is anticipated that exhibits produced at the laboratory will help to extend the relevance of Smithsonian presentations to the entire community. In addition, exhibits produced for the Bicentennial on urban problems and minority contributions will be circulated nationwide, thus serving as an example for museums across the nation.

An exhibits specialist (\$14,000) is needed to assist with the development of Bicentennial exhibits, as well as other exhibits at the Museum. An administrative assistant (\$11,000) is needed to manage detailed correspondence and accounts, related to the laboratory's operation.

OFFICE OF INTERNATIONAL ACTIVITIES

(Dollars in thousands)	Base FY 1973	Increase Requested	Est. FY 1974
No. of Permanent Positions.....	<u>10</u>	<u>1</u>	<u>11</u>
11 Personnel Compensation.....	143	20	163
12 Personnel Benefits.....	12	1	13
21 Travel & Trans. of Persons..	5		5
22 Transportation of Things....			
23 Rent, Comm. & Utilities.....			
24 Printing and Reproduction...			
25 Other Services.....			
26 Supplies and Materials.....			
31 Equipment.....			
32 Lands and Structures.....			
41 Grants.....		<u>25</u>	<u>25</u>
TOTAL	<u>160</u>	<u>46</u>	<u>206</u>

Analysis of Increase

Pay Increase.....	5
Program.....	41

Specification of Increase (Program):

Support of Overseas Research (1 position; \$41,000). This Office fosters and coordinates the Institution's scientific and cultural activities abroad. A growing number of research projects in India, Pakistan, and Burma require a coordinator (\$16,000) to be present in the region a major portion of each year for host-country consultation and project administration. An additional \$25,000 is requested for a matching grants program to assist American research centers abroad in classical archaeological studies.

1972 Actual.....	\$140,000
1973 Appropriation.....	\$160,000
1974 Estimate.....	\$206,000

The Office of International Activities was established in 1965 to foster and coordinate the Smithsonian's many-sided scientific and cultural activities abroad. To this end, it is the Institution's point of liaison with the Department of State and diplomatic missions in Washington, and with foreign governments and research institutions abroad.

Of special importance are new efforts to foster Smithsonian scientific and cultural exchanges with the Peoples Republic of China, the Soviet Union, and Poland, following President Nixon's initiatives. The Office continues to support the Institution's world-wide environmental and conservation programs and the exchange of scholars and technicians as well as of cultural and scientific objects, information, exhibits, and the like in the interests of basic research and public education.

The program increase of \$41,000 requested is to be used to support the Foreign Currency Program and American centers of research in classical archeology abroad. An additional amount of \$5,000 is required for necessary pay for current staff.

Need for Increase

Thirty-five joint research programs for India are in preparation, eight for Pakistan, and two for Burma for presentation to the Foreign Currency Program. Two nation-wide studies, funded earlier by the Program, will continue for several years in Ceylon. Satisfactory development of programs in India and Pakistan particularly, where excess local currency accounts seem assured for an indefinite period, require a coordinator (\$16,000) to be present in the region a major part of each year. This is essential especially for Smithsonian sponsored research because this Institution, unlike other Special Foreign Currency Program agencies, is required by law to make its excess currencies "available only to United States institutions." American scientists therefore participate in person in joint research programs in these countries. This requires extensive preparation and coordination not characteristic of other U. S. agency excess currency programs. A coordinator, therefore, who is familiar with host country laws, regulations, and procedures, and who is close-at-hand for consultation with potential collaborators on short notice, is vital. His presence in South Asia will save substantial amounts of money both in terms of travel costs and in terms of teaching and research time which would otherwise be lost by American scholars.

America's contributions to research in classical archeology have literally been made possible by a small group of research centers abroad like the American Academy in Rome, the American School of Classical Studies at Athens, and, more recently, the American Research Institute in Turkey. These centers are sponsored and supported by consortia of American institutions and individuals devoted to the study of the roots of our western civilization. Such centers maintain a continuity of contact with local governments, research institutions, and scholars ensuring access to local research materials and sites. Moreover, they provide experienced local administrators for field research. The existence of these centers is threatened by the dual pressures here in the United States of inflation and reduced government support of the programs of the sponsoring United States universities. As the original sponsor of archeology in the United States and of a global network

of research scholars, the Smithsonian seeks a fund (\$25,000) for grants to American research centers abroad. Applications for these funds would be carefully screened by the Institution and awards made only to the extent that the applicants obtained new, matching funds. Such incentive awards would contribute to the survival of these excellent representatives of the American scholarly community abroad.

INTERNATIONAL EXCHANGE SERVICE

(Dollars in thousands)	Base <u>FY 1973</u>	Increase <u>Requested</u>	Est. <u>FY 1974</u>
No. of Permanent Positions.....	<u>9</u>	<u>-</u>	<u>9</u>
11 Personnel Compensation.....	89	7	96
12 Personnel Benefits.....	8	1	9
21 Travel & Trans. of Persons...			
22 Transportation of Things....	56		56
23 Rent, Comm. & Utilities.....			
24 Printing and Reproduction...			
25 Other Services.....			
26 Supplies and Materials.....	6		6
31 Equipment.....	1		1
32 Lands and Structures.....			
41 Grants.....	<u> </u>	<u> </u>	<u> </u>
TOTAL	<u>160</u>	<u>8</u>	<u>168</u>

Analysis of Increase

Pay Increase.....	8
Program.....	-

Specification of Increase (Program):

Through the International Exchange Service, public and private institutions in the United States exchange publications with organizations in other countries. This includes the exchange of official publications such as the Federal Register, the Congressional Record, and U.S. patent specifications, as well as private publications such as medical and dental texts, which are of particular importance to developing countries. No program fund increase is being requested in FY 1974.

1972 Actual.....	\$147,000
1973 Appropriation....	\$160,000
1974 Estimate.....	\$168,000

Through the International Exchange Service, public and private institutions in the United States exchange their publications with organizations in other countries and receive in exchange publications from those organizations. Begun in 1849 as an exchange service between the Smithsonian Institution and the learned societies in other countries, the program was so successful that later it was expanded to other American organizations.

When the Brussels Convention of 1886 was adopted by the United States, the Smithsonian Institution became the official exchange bureau in the United States for the International Exchange of literary, scientific, and cultural publications. The Smithsonian Institution is the only organization in the United States that is providing a service under the Brussels Convention.

14 Stat. 573, as amended, provides that the exchange of the official United States Government publications shall be made through the Smithsonian Institution.

No funding increase is being requested for this activity except necessary pay (\$8,000).

DIVISION OF PERFORMING ARTS

(Dollars in thousands)	Base <u>FY 1973</u>	Increase <u>Requested</u>	Est. <u>FY 1974</u>
No. of Permanent Positions.....	<u>9</u>	<u>1</u>	<u>10</u>
11 Personnel Compensation.....	169	14	183
12 Personnel Benefits.....	14	3	17
21 Travel & Trans. of Persons..	9	3	12
22 Transportation of Things....	3	1	4
23 Rent, Comm. & Utilities.....	7	2	9
24 Printing and Reproduction...	3	1	4
25 Other Services.....	71	10	81
26 Supplies and Materials.....	17	1	18
31 Equipment.....	10	7	17
32 Lands and Structures.....			
41 Grants.....			
TOTAL	<u>303</u>	<u>42</u>	<u>345</u>

Analysis of Increase

Pay Increase.....	3
Program.....	39

Specification of Increase (Program):

American Folklife Festival (1 position; \$39,000). Beginning with the Festival in 1973, the Division of Performing Arts will enlarge the basic presentational format to incorporate the themes which will comprise the Bicentennial presentation. Funds for the development of these themes are requested under the Bicentennial heading of this budget, but funds for the changes in Festival format, which will provide opportunities for exhibit development and organizational experience, are urgently needed as a part of the Division's base. One planned format change will extend the 1973 Festival presentation from a 5-day period to a 10-14 day time period. This development of the annual Folklife Festival, resulting from the change in program emphasis, requires a technical assistant and temporary help during the Festival (\$14,000) and \$25,000 for additional supplies, equipment, and contractual services sufficient to support the expanded time period.

1972 Actual.....	\$265,000
1973 Appropriation....	\$303,000
1974 Estimate.....	\$345,000

The Division of Performing Arts is responsible for the presentation of programs dealing with our national aesthetic expressions, particularly as they evidence themselves in oral, music, or dance forms, and relate to the collections of the museums. By staging such events as the annual Festival of American Folklife and cosponsoring the American College Theater Festival, the Division undertakes to extend and enliven the Institution's educational services to the public.

An increase of \$39,000 is required in the FY 1974 budget for the Festival of American Folklife and for general support. An amount of \$3,000 is needed for necessary pay.

Need for Increase

Substantial support is required to meet presentation and public service needs for the annual Festival of American Folklife. In previous years Festival participants have been paid minimum honorariums and housed in college dormitories. Despite rising costs of living, honorariums have remained the same since the inception of the Festival in 1967. The increased size of the Festival and the added number of participants necessitate a search for new housing arrangements at increased costs.

Administrative expenses of the Festival have increased due to the added number of requests for local, state, and national assistance and guidance in developing programs in folk culture. Iowa, Ohio, Kentucky, and Maryland have joined the list of states requesting guidance for state programs. In addition, Spokane, Washington, has requested consultation and assistance for the forthcoming Expo '74. Response to these requests has placed additional demands on administrative and clerical services.

Beginning with the Festival in 1973, which will feature the State of Kentucky, the Division of Performing Arts will enlarge the basic presentational format to incorporate the themes which will comprise the Bicentennial presentation. These themes are:

1. Old Ways in the New World--World ethnic communities and their American analogues.
2. The Native Americans--The surviving cultures of the American Indian.
3. Working America--The skills, crafts, and lore of the American workers.
4. A Regional View of American Life--Regional folklife and expressions.

Funds for the development of these themes are requested under the Bicentennial heading of this budget, but funds for the changes in Festival format, which will provide opportunities for exhibit development and organizational experience, are urgently needed as a part of the Division's base appropriation. One planned format change will extend the 1973 Festival presentation from a 5-day period to a 10-14 day time period. This will provide an immediate benefit to the public as well as an opportunity for determining needs relative to the Bicentennial presentation. This development of the regular annual Folklife Festival, resulting from the change in program emphasis, requires a technical assistant and temporary help during the Festival (\$14,000) and \$25,000 for additional supplies, equipment, and contractual services (for such items as food and accommodations) sufficient to support the expanded time period.

OFFICE OF PUBLIC AFFAIRS

(Dollars in thousands)	Base FY 1973	Increase Requested	Est. FY 1974
No. of Permanent Positions.....	<u>12</u>	<u>-</u>	<u>12</u>
11 Personnel Compensation.....	200	3	203
12 Personnel Benefits.....	17		17
21 Travel & Trans. of Persons..	2		2
22 Transportation of Things....			
23 Rent, Comm. & Utilities.....			
24 Printing and Reproduction...	39		39
25 Other Services.....	15		15
26 Supplies and Materials.....	7		7
31 Equipment.....	1		1
32 Lands and Structures.....			
41 Grants.....	<u> </u>	<u> </u>	<u> </u>
TOTAL	<u>281</u>	<u>3</u>	<u>284</u>

Analysis of Increase

Pay Increase.....	3
Program.....	-

Specification of Increase (Program):

The Office of Public Affairs is responsible for communicating information about the Smithsonian and its programs to the public through various media--radio, television, newspapers, popular and scientific periodicals, press releases, documentary films, and general information and visitor orientation pamphlets and other items. No additional program funds are requested in the FY 1974 budget.

1972 Actual..... \$372,000
 1973 Appropriation..... \$281,000
 1974 Estimate..... \$284,000

The Office of Public Affairs is responsible primarily for serving Smithsonian visitors and the public at large by communicating information about the Smithsonian and its programs through various media--radio, television, newspapers, popular and scientific periodicals, press releases, documentary films, the Smithsonian Calendar of Events, Dial-A-Phenomena, Dial-A-Museum, and general information pamphlets and publications. It also prepares and makes available to museum visitors a variety of building guide leaflets to assist them in their tours of Smithsonian buildings. Included in its presentations are the Torch newspaper, research reports, and the "Radio Smithsonian" now being heard over 88 stations across the nation. The Office of Public Affairs also administers the Office of Special Events, which is responsible for servicing exhibition openings, seminars, meetings, and special activities held at the Smithsonian facilities in Washington, D. C.

No program increase is being sought for this office. An amount of \$3,000 is requested for necessary pay for existing staff.

SMITHSONIAN INSTITUTION PRESS

(Dollars in thousands)	Base <u>FY 1973</u>	Increase <u>Requested</u>	Est. <u>FY 1974</u>
No. of Permanent Positions.....	<u>25</u>	<u>1</u>	<u>26</u>
11 Personnel Compensation.....	355	18	373
12 Personnel Benefits.....	30	2	32
21 Travel & Trans. of Persons..	2		2
22 Transportation of Things....			
23 Rent, Comm. & Utilities....			
24 Printing and Reproduction...	414		414
25 Other Services.....	5		5
26 Supplies and Materials.....	2		2
31 Equipment.....	2		2
32 Lands and Structures.....			
41 Grants.....			
TOTAL	<u>810</u>	<u>20</u>	<u>830</u>

Analysis of Increase

Pay Increase.....	4
Program.....	16

Specification of Increase (Program):

Graphic Specialist, Printed Materials (1 position; \$16,000). Careful design of printed materials is essential, not simply for maximum transfer of information, but to secure the most economical procurement within the specifications set by the Congress's Joint Committee on Printing. Funds are requested to employ a specialist in the design of printed materials.

1972 Actual..... \$816,000
 1973 Appropriation..... \$810,000
 1974 Estimate..... \$830,000

Press publication activity is a fundamental extension of the work of the Smithsonian's basic research laboratories. Necessary for ecological and agricultural advancement and other basic and applied studies by other researchers, these reports are distributed to major libraries and scientific institutions in all 50 states and many foreign countries. For the many millions of visitors to the Smithsonian each year, the Press produces and distributes exhibit catalogs, education pamphlets, and informative leaflets. Finally, the Press also furnishes the Institution with a variety of necessary manuals, reports, specimen labels, and

directories, including copies of Congressional materials and reports from government agencies.

A program increase of \$16,000 is sought for design and printing staff. An additional \$4,000 is required for necessary pay for current staff.

Need for Increase

Increased exhibition and education activities of the National Portrait Gallery, the National Collection of Fine Arts, the Renwick Gallery, and Anacostia Neighborhood Museum have outstripped the Press's ability with present staff to design the necessary exhibition catalogs, hall guides, and public education leaflets. Careful design of these printed materials is essential, not simply for maximum transfer of information, but to secure the most economical procurement within the specifications set by the Congress's Joint Committee on Printing. Funds are requested to correct this problem by the addition of a specialist in the design of printed materials.

OFFICE OF THE ASSISTANT SECRETARY FOR MUSEUM PROGRAMS

(Dollars in thousands)	AND OFFICE OF MUSEUM PROGRAMS		
	Base FY 1973	Increase Requested	Est. FY 1974
No. of Permanent Positions.....	9	-	9
11 Personnel Compensation.....	117	2	119
12 Personnel Benefits.....	10		10
21 Travel & Trans. of Persons..	8		8
22 Transportation of Things....	3		3
23 Rent, Comm. & Utilities.....	4		4
24 Printing and Reproduction...	3		3
25 Other Services.....	142		142
26 Supplies and Materials.....	17		17
31 Equipment.....	15		15
32 Lands and Structures.....			
41 Grants.....			
TOTAL	319	2	321

Analysis of Increase

Pay Increase.....	2
Program.....	-

Specification of Increase (Program):

The Office of Museum Programs oversees and reviews the Institution's museum and exhibition activities, with special emphasis in developing experimental and educational exhibits, surveying visitor reactions to the Institution's services, and providing advice and technical assistance to other museums.

This Office offers three technical assistance programs to museum workers: (1) a training workshop program in museum practices, (2) a series of video tapes on conservation techniques, and (3) experiments in the effectiveness of exhibit and educational programs. No program funding increase is requested in the FY 1974 budget.

1972 Actual.....	\$250,000
1973 Appropriation.....	\$319,000
1974 Estimate.....	\$321,000

The Office of Museum Programs oversees and reviews the Smithsonian Institution's museum and exhibition activities, with special emphasis on developing experimental and educational exhibits, surveying visitor reactions to

the Institution's services, and providing advice and technical assistance to other museums. It cooperates with museum professionals and their associations and organizations to increase the effectiveness of museums in the performance of their scholarly and public education functions. The Office of the Registrar, the Conservation-Analytical Laboratory, the Office of Exhibits, the Smithsonian Libraries, the Smithsonian Institution Traveling Exhibition Service, and the National Museum Act are under the general administration of this Office.

In addition to the central administrative functions, this office maintains three technical programs: (1) a training workshop program in museum practices, (2) a series of video tapes in conservation techniques and (3) experiments in the effectiveness of exhibit and educational programs. Currently the Office of Museum Programs offers a series of technical workshops to museum professionals throughout the United States. For FY 1974, a total of 22 one-week workshops will be offered such as silk screen process, museum design, and model making, etc. These workshops provide on-the-job training. The second special program disseminates information on conservation techniques and practices through the production of slide/audio cassette kits and video tapes. For this fiscal year 40 one-hour video tapes will be produced for student training in conservation, 10 slide/audio cassette kits for the general practitioner and 20 technical video tapes for the specialists. The third major project consists of experiments exploring the learning potentials of museum exhibits. Secondly, several research projects are in progress examining the affective and informative levels of exhibits.

An amount of \$2,000 is requested for necessary pay purposes; no program increase is sought for FY 1974.

CONSERVATION-ANALYTICAL LABORATORY

(Dollars in thousands)	Base <u>FY 1973</u>	Increase <u>Requested</u>	Est. <u>FY 1974</u>
No. of Permanent Positions.....	<u>14</u>	<u>5</u>	<u>19</u>
11 Personnel Compensation.....	163	45	208
12 Personnel Benefits.....	14	4	18
21 Travel & Trans. of Persons..	9		9
22 Transportation of Things....			
23 Rent, Comm. & Utilities.....			
24 Printing and Reproduction...			
25 Other Services.....	33	7	40
26 Supplies and Materials.....	13	10	23
31 Equipment.....	37	36	73
32 Lands and Structures.....			
41 Grants.....			
TOTAL	<u>269</u>	<u>102</u>	<u>371</u>

Analysis of Increase

Pay Increase.....	2
Program.....	100

Specification of Increase (Program):

Preservation and Conservation of Smithsonian Collections (5 positions; \$100,000). Manpower and facilities devoted to general Institution conservation tasks are badly inadequate. Many of the 130,000 artifacts added to the collections each year require analysis and treatment. Thirty-two man years of work each year is estimated to be required for new objects exclusive of the needs of hundreds of thousands of deteriorating objects already in the collections. Only a fraction of the required conservation manpower is now available. Additional badly needed space is being provided to the Conservation-Analytical Laboratory. An additional two conservators, two analytical scientists, and a clerk are requested (\$47,000) to improve the Institution's ability to cope with a huge and growing workload. An amount of \$53,000 is required for laboratory services and supplies and for the purchase of analytical equipment.

1972 Actual.....	\$195,000
1973 Appropriation.....	\$269,000
1974 Estimate.....	\$371,000

The Conservation-Analytical Laboratory was established in 1963 to serve the museums of the Smithsonian Institution. Staffed by conservators and scientists, it ascertains and advises on the suitability, for artifacts displayed or in storage, of environmental conditions found in the buildings and suggests remedial action if necessary. Based upon examination or analysis, advice is given to curatorial units on conservation procedures for specific objects. Objects which present special problems or require more specialized equipment than is available in these units are treated in this central laboratory.

Analyses of objects or their materials (e.g. pigments, fibers, alloys, or corrosion products) by advanced instrumentation serve to determine appropriate conservation procedures or to provide museum archaeologists and historians with basic research data concerned with dates, attribution, and ancient production methods. Commercial products proposed for prolonged contact with artifacts (such as fumigants used in storage) are examined for suitability.

The conservation program of the Smithsonian requires additional space, personnel, and operating support. It is anticipated that more space will become available in FY 1973 and an increase of \$100,000 is requested for conservator and scientist staff and efficiency-raising equipment. An additional \$2,000 is required for necessary pay.

Need for Increase

Manpower and facilities devoted to general Institution conservation tasks are woefully inadequate. Accessions of artifacts number about 130,000 a year. Some single accessions are complex or represent hundreds of objects. Many of these are invaluable. A large proportion require immediate and extensive treatment to forestall decay. If only thirty minutes were applied to each newly-acquired object (two hours is an actual minimum of treatment), this would represent 32 man-years of necessary work each year, exclusive of the needs of deteriorating objects already in the collection. Central staffing and space needed to cope efficiently and adequately with the preservation and conservation of the Smithsonian's collections is estimated conservatively at thirty conservators, supported by fifteen scientists and 60,000 square feet of well-outfitted laboratory space.

The Conservation-Analytical Laboratory now has six conservators and five scientists for a wide variety of tasks; other units, in the National Portrait Gallery, National Collection of Fine Arts, the Freer Gallery, and the Department of Anthropology total about seven conservators and two scientists whose efforts are focussed on specialized local needs. The Laboratory occupies an overcrowded 2,600 square feet. In FY 1972, with limited staff and space it treated 420 objects (varying in nature from archaeological to space-age) from bureau collections. This compares with 358 in 1971 and 144 in 1970.

The requested funding increase would provide two conservators, two scientists, and an information clerk (\$47,000). It would also provide \$53,000 program funds for services for about 2,000 square feet of additional space for the new staff, general laboratory supplies and materials to cope with a growing workload, and for additional equipment for study and analysis techniques, such as atomic absorption, differential thermal analysis, thermoluminescence dating, and ultraviolet spectrophotometry.

OFFICE OF EXHIBITS PROGRAMS

(Dollars in thousands)	Base FY 1973	Increase Requested	Est. FY 1974
No. of Permanent Positions.....	<u>148</u>	<u>15</u>	<u>163</u>
11 Personnel Compensation.....	1,986	158	2,144
12 Personnel Benefits.....	169	13	182
21 Travel & Trans. of Persons...	6		6
22 Transportation of Things....			
23 Rent, Comm. & Utilities.....			
24 Printing and Reproduction...	60	18	78
25 Other Services.....	156	45	201
26 Supplies and Materials.....	120	98	218
31 Equipment.....	55	20	75
32 Lands and Structures.....			
41 Grants.....			
TOTAL	<u>2,552</u>	<u>352</u>	<u>2,904</u>

Analysis of Increase

Pay Increase.....	52
Program.....	300

Specification of Increase (Program):

Serving Projected Exhibits Requirements (15 positions; \$300,000). During the period 1974-1977 this Office will be required to help design and produce a growing number of exhibits for regular, ongoing programs, the Bicentennial, the new National Air and Space Museum, the implementation of the Zoo's master plan and others. No program fund increases have been sought for this Office for several years while exhibits plans and base resource capabilities were reviewed. Phased growth of support personnel and funds is now requested to realize the full capability of the current base resource of skilled exhibits personnel. An additional 15 lower-graded positions (\$119,000) are requested to perform full-time maintenance of exhibits subject to heavy visitor use. An amount of \$181,000 also is requested to replace worn-out and damaged exhibits components and to procure routine production and maintenance services. These steps will help to keep existing exhibits in good repair and free more highly skilled employees for the preparation of new exhibits in the years ahead.

1972 Actual.....	\$2,580,000
1973 Appropriation.....	\$2,552,000
1974 Estimate.....	\$2,904,000

The Office of Exhibits, working in close and continuing collaboration with museum scientists, curators, and historians, is instrumental in preparing and maintaining exhibits seen by the millions of people a year who visit the Smithsonian museums. Over 4,000 permanent and temporary exhibit units have been produced over the past 20 years. Among the highly developed techniques used by the Office for the preparation of exhibits are freeze-dry taxidermy, plastic reproductions and object mounting devices, and modelmaking. Concerned mainly with the presentation of concepts, ideas, information, and objects related to the natural sciences, history, technology, and the flight sciences, the Office of Exhibits provides advanced training in exhibit techniques to hundreds of museum professionals from museums in the United States and other countries each year. Studies now being planned will record visitor reaction, participation, and involvement in museum exhibits to learn more about the process of communicating ideas.

For FY 1974 the Office requires a program fund increase of \$300,000 to permit an improved capability of its total resources to serve Bicentennial, National Air and Space Museum, and other exhibits' preparation needs. An additional amount of \$52,000 is sought for necessary pay for current staff.

Need for Increase

During the period FY 1974 - 1977 the Office of Exhibits will be required to help design, fabricate, and install a growing number of special temporary and

permanent exhibit units in support of regular ongoing public service programs serving some 20 million visitors each year, special projects for the Bicentennial, the opening of the new National Air and Space Museum, the implementation of the Master Plan at the National Zoological Park, and others. For several years, no program fund increases have been requested for this Office while the Institution studied current and projected exhibit needs, reviewed the organization and operations of the Office itself, began to implement adjustments to increase productivity, and took other actions to ensure that the total resources of the Office are being used effectively. These studies have confirmed that the Smithsonian now has an excellent base resource of skilled professional exhibits personnel to approach the large workload of the next several years. This resource can be made more productive, however, by limited, phased growth primarily of support personnel and funds. The importance of proper support relationships is a matter that has been presented in other budgetary/program relationships of the Institution, notably the science effort.

To implement this growth in support for increased productivity of existing staff exhibits specialists, the Smithsonian is requesting positions and funds for permanent, full-time maintenance teams at appropriately lower salary levels and for contractual services for routine production jobs. The use of audio visual and special effect techniques combined with the normal wear and tear on permanent exhibits has created a strong requirement for a permanent, full-time maintenance program in all museum buildings. At present, maintenance is provided by highly skilled specialists at the sacrifice of new exhibit program requirements. Fifteen positions (\$119,000) are requested to establish maintenance teams to provide daily attention to existing exhibits. Other object class funds (\$181,000) are requested to replace worn-out and vandalized exhibit components and to replace mechanical equipment, some of which has had to be removed from public exhibit spaces. These funds will also be used to establish a special fund for the procurement of routine production and maintenance services, thus allowing specialists to be assigned to more important projects.

OFFICE OF THE REGISTRAR

(Dollars in thousands)	Base FY 1973	Increase Requested	Est. FY 1974
No. of Permanent Positions.....	<u>31</u>	<u>-</u>	<u>31</u>
11 Personnel Compensation.....	253	5	258
12 Personnel Benefits.....	22		22
21 Travel & Trans. of Persons..			
22 Transportation of Things....	62		62
23 Rent, Comm. & Utilities.....			
24 Printing and Reproduction...			
25 Other Services.....	27		27
26 Supplies and Materials.....	2		2
31 Equipment.....	2		2
32 Lands and Structures.....			
41 Grants.....			
TOTAL	<u>368</u>	<u>5</u>	<u>373</u>

Analysis of Increase

Pay Increase.....	5
Program.....	-

Specification of Increase (Program):

The Office of the Registrar serves as a central point for officially accessioning and recording the specimens and objects coming to the National Museums of Natural History and History and Technology. It also furnishes essential support services to all units of the Smithsonian by operating the central mail room and the shipping office, handling U.S. customs clearances and providing the central messenger service. No additional program funds are sought on the FY 1974 budget.

1972 Actual..... \$323,000
 1973 Appropriation..... \$368,000
 1974 Estimate..... \$373,000

The Office of the Registrar was established in 1881 to serve as a central point for officially accessioning and recording the specimens and objects coming into the Institution. It now has responsibility for recording and safeguarding the documents pertaining to the receipt and legal ownership of the items accessioned into the collections of the National Museum of Natural History and the National Museum of History and Technology. In addition, the Office furnishes essential support services to all units of the Smithsonian in their research, education, collection management, and exhibition programs, by operating the central mail room and the shipping office, handling U.S. Customs clearances, providing the central messenger service, and servicing public inquiries for the Museums.

No program fund increase is requested for FY 1974. An amount of \$5,000 is needed for necessary pay.

SMITHSONIAN INSTITUTION LIBRARIES

(Dollars in thousands)	Base FY 1973	Increase Requested	Est. FY 1974
No. of Permanent Positions.....	<u>63</u>	<u>3</u>	<u>66</u>
11 Personnel Compensation.....	740	32	772
12 Personnel Benefits.....	63	3	66
21 Travel & Trans. of Persons..	8		8
22 Transportation of Things....	1		1
23 Rent, Comm. & Utilities.....	10		10
24 Printing and Reproduction...	33	3	36
25 Other Services.....	26	1	27
26 Supplies and Materials.....	82	5	87
31 Equipment.....	95	15	110
32 Lands and Structures.....			
41 Grants.....			
TOTAL	<u>1,058</u>	<u>59</u>	<u>1,117</u>

Analysis of Increase

Pay Increase.....	9
Program.....	50

Specification of Increase (Program):

Extension of Basic Services (2 positions; \$22,000). In order to maintain the new branch libraries of the National Air and Space Museum and to respond to the increased demand for reference and information services associated with the development of Bicentennial projects, two additional positions (a librarian and a library technician) are required.

Acquisition of Information Resources (1 position; \$28,000). To assist in meeting the continually changing and growing need for documentary resources relevant to the Smithsonian research and exhibit programs, an increase of \$18,000 in book and journal funds is requested. Based on accepted workload standards, an additional library technician (\$8,000) will be required to perform the associated technical processing function. In addition \$2,000 is requested to enable the repair and processing of many steadily deteriorating rare books now that a secure, climate-controlled storage facility has been obtained.

1972 Actual.....	\$ 864,000
1973 Appropriation.....	\$1,058,000
1974 Estimate.....	\$1,117,000

The Smithsonian Institution Libraries provide the documentary information base and the information search and delivery services that are required by, and contribute directly to, the research, exhibits, and administrative programs of the bureaus and offices of the Institution.

The FY 1974 increase of \$50,000 is sought chiefly to extend basic library-based information services to the growing National Air and Space Museum operation and to Bicentennial programs. An additional amount of \$9,000 is required for necessary pay.

Need for Increase

Extend Basic Services (2 positions; \$22,000)

Library staffing for the branch libraries and information centers, most of which were unmanned in 1964, has reached 40 percent of a goal of 37 positions. Two new positions, a librarian and a library technician at a cost of \$22,000 with supplies and other support, are requested for the major developing program areas of the Institution, principally the branch libraries of the Air and Space Museum and the several bureaus that are increasingly involved in the development of Bicentennial projects. These positions will allow the Libraries to offer reference and information services to researchers in and near their laboratories and collections and to maintain the Museum's branch library and working collections. This additional staff will also help the Libraries maintain the inventory of the recently segregated rare book collections and to begin an inventory of the many map collections, scattered throughout the Institution, that have a growing importance for study and reference.

Acquisition of Information Sources (1 position; \$28,000)

In FY 1973 the Libraries will have reached about 45 percent of their goal of \$300,000 funding to acquire the books, journals, and other documentary resources from throughout the world that are considered essential to information services in the subjects relevant to the Smithsonian research and exhibit programs. The requested increase in book and journal funds for FY 1974 (\$18,000) will move the Libraries to within 50 percent of their goal, allowing chiefly the acquisition of new journals in art and science, special publication series (e.g., the ultramicrofiche editions of research monographs in American culture offered by Encyclopedia Britannica) and new editions of standard guides to sources of information such as the major national and subject bibliographies and indexes. Based on generally accepted workload standards, one additional library technician (\$8,000) in the technical processing function is required for the prompt handling of each \$15,000 worth of new material added, plus expected continued donations of gift and exchange materials.

An additional goal in the FY 1974 budget request is to improve the Libraries' capability in filming, binding, and other processing of deteriorating collections. The Libraries have recently obtained a secure, climate-controlled storage facility for their many rare books and have identified nearly 200 volumes of treasured items that must be processed and repaired for conservation, at prices ranging up to \$100 a volume (\$2,000).

SMITHSONIAN INSTITUTION TRAVELING EXHIBITION SERVICE

(Dollars in thousands)	Base <u>FY 1973</u>	Increase <u>Requested</u>	Est. <u>FY 1974</u>
No. of Permanent Positions.....	<u>-</u>	<u>5</u>	<u>5</u>
11 Personnel Compensation.....		60	60
12 Personnel Benefits.....		5	5
21 Travel & Trans. of Persons..			
22 Transportation of Things....		6	6
23 Rent, Comm. & Utilities.....			
24 Printing and Reproduction...			
25 Other Services.....			
26 Supplies and Materials.....		5	5
31 Equipment.....		4	4
32 Lands and Structures.....			
41 Grants.....			
	<u>-</u>	<u>80</u>	<u>80</u>
TOTAL	<u>-</u>	<u>80</u>	<u>80</u>

Analysis of Increase

Pay Increase.....	-
Program.....	80

Specification of Increase (Program):

Circulation of Exhibits to the Public (5 positions; \$80,000). The Traveling Exhibition Service (SITES) in operation for 21 years, circulates some 100 exhibits annually in art, science, history, and other fields. Each year about 4 million persons across the country view SITES installations. The service is funded largely from exhibit rental fees; but soaring costs of personnel, production, and shipping have increased these fees beyond the reach of many smaller, less wealthy museums, schools, and historical societies. Federal funding is required, on a cost-shared basis, to permit SITES to increase its service by providing more exhibitions to more potential users at lower rental fees. An amount of \$65,000 is requested to convert four private roll employees (the director, an exhibits specialist and technician, and the registrar) to Federal positions and add a technician. An additional \$15,000 will be used for shipping, production supplies, and equipment.

1972 Actual.....	\$	0
1973 Appropriation.....	\$	0
1974 Estimate.....	\$80,000	

The Smithsonian Institution Traveling Exhibition Service (SITES) provides a planned program of carefully selected, well-designed, and widely circulated traveling exhibitions covering a diversified range in the fields of art, design, science, technology, history, and education. Exhibitions are organized and lent by individuals and organizations throughout the world. A sample of the range of exhibit subjects is shown on a following page. The Smithsonian Institution is not always easily accessible to people away from the Washington area. SITES is the vehicle for taking the nation's treasures to them. SITES is the only nation-wide organization circulating exhibitions of an inter-disciplinary curriculum serving specialized and general museums, galleries, educational and cultural organizations throughout the nation. It is now in its 21st year of continuous operation supported by private funds.

Approximately four million people view SITES exhibitions annually (500 installations viewed by an average 8,000 persons each). For example, SITES has served 49 states and the District of Columbia many times during the last five years. One hundred exhibitions are presently circulating; existing demand for services could easily sustain twice that figure. Each year, 30 new exhibitions are needed to keep 100 exhibits in circulation. SITES mailing list of corresponding organizations numbers 1700 and increases at the rate of 30 per month. Colleges and universities are SITES most frequent customers (60 percent) followed by museums of all types and sizes (30 percent) and libraries (5 percent). All others make up the remaining 5 percent.

In FY 1974 an amount of \$65,000 for five positions and \$15,000 support costs is being sought to continue these operations.

Need for Increase

SITES seeks additional resources for the necessary balance of public and private funding which will permit SITES to increase its service by providing more exhibitions, making them more available, for lower rental fees. Private funding can no longer support this activity by itself.

SITES, since its inception, has been funded through the private resources of the Smithsonian. Most costs for these exhibits are recovered by charging rental fees. Soaring costs of personnel, production, and shipping, however, have increased the rental of these exhibits beyond the means of many potential users, especially the smaller museums, schools, and historical societies. Figure 1 clearly shows that as the rental fees increase above \$200 the number of installations decreases, and Figure 2 shows that the cost of each exhibit has been increasing at a very substantial pace.

The practical effect has been that costs exceed income and the Institution's limited private funds have been forced to absorb annual deficits. The combined deficit for the past five years including FY 1973 is approximately \$80,000. The Institution cannot afford these continued losses. It would not be in the public's best interests, however, to terminate, drastically reduce, or orient this program to the wealthier customers.

The FY 1974 budget request provides for the following private roll staff conversions to Federal (the SITES director, an exhibits specialist, an exhibits technician, and the registrar). One additional exhibits technician will be hired to assist with display and packaging production. The requested funds also will be used for transportation of exhibits, production supplies, and equipment.

Figure #1

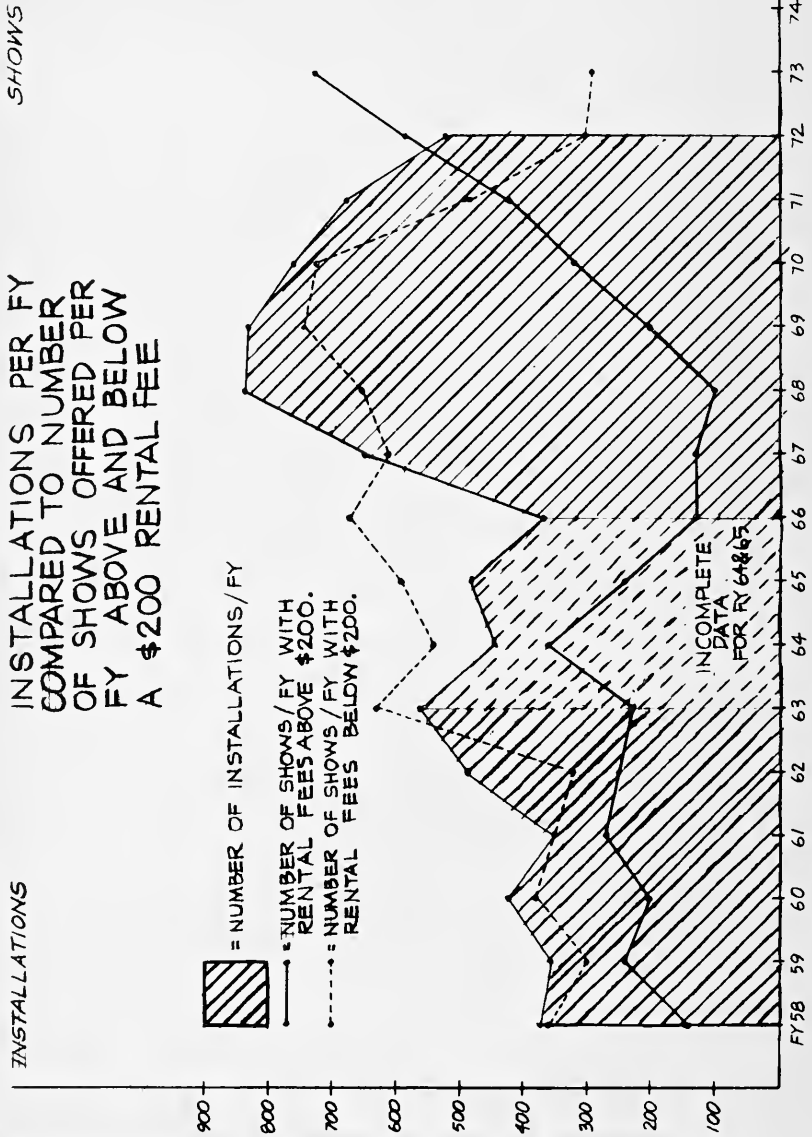
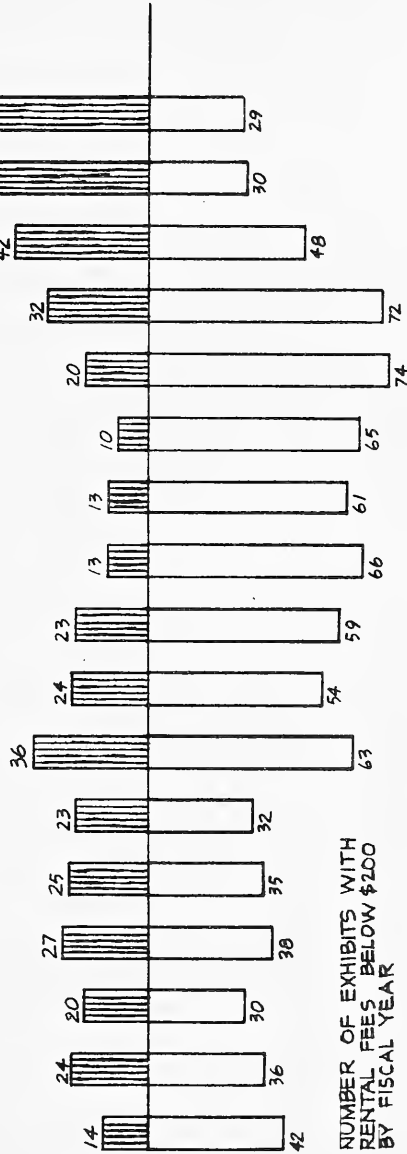


Figure #2

NUMBER OF EXHIBITS
WITH RENTAL FEES
ABOVE AND BELOW
\$200 BY FISCAL YEAR

NUMBER OF EXHIBITS WITH
RENTAL FEES ABOVE \$200
BY FISCAL YEAR



NUMBER OF EXHIBITS WITH
RENTAL FEES BELOW \$200
BY FISCAL YEAR

FY57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73

NATIONAL MUSEUM ACT

(Dollars in thousands)	Base FY 1973	Increase Requested	Est. FY 1974
No. of Permanent Positions.....	3	-	3
11 Personnel Compensation.....	34	1	35
12 Personnel Benefits.....	3		3
21 Travel & Trans. of Persons..	15		15
22 Transportation of Things....			
23 Rent, Comm. & Utilities.....	4		4
24 Printing and Reproduction...	2		2
25 Other Services.....	1		1
26 Supplies and Materials.....	1		1
31 Equipment.....	3		3
32 Lands and Structures.....			
41 Grants.....	735	100	835
TOTAL	798	101	899

Analysis of Increase

Pay Increase.....	1
Program.....	100

Specification of Increase (Program):

Technical Assistance Grants to the Museum profession (\$100,000). Funds appropriated to the Smithsonian Institution for the implementation of the National Museum Act (P.L. 91-629 authorized \$1,000,000) are made available, primarily by grants and contracts, to museums, professional associations, and individuals. The National Museum Act is a technical assistance program granting funds for specific proposals which advance the museum profession at large, either through training, research, publication, or professional assistance. During FY 1973 approximately 200 proposals totaling \$9 million are expected to be received while only \$798,000 will be available, of which \$200,000 must be transferred to the National Endowments for the Arts and Humanities. The \$100,000 requested increase will enable the Smithsonian to fund additional worthy proposals.

1972 Actual.....	\$600,000
1973 Appropriation.....	\$798,000
1974 Estimate.....	\$899,000

Public Law 91-629, approved December 31, 1970, reauthorized appropriations for the National Museum Act through FY 1974 and funding of \$1,000,000 to the Smithsonian Institution each year. Of this amount \$798,000 was appropriated for FY 1973, of which \$100,000 was transferred to the National Endowment for the Arts and to the National Endowment for the Humanities as required by the legislation.

Funds appropriated to the Smithsonian Institution for the implementation of the National Museum Act are made available, primarily by grants and contracts, to museums, professional associations, and individuals. Such funding is made in concert with the National Museum Act Advisory Council appointed for this purpose by the Smithsonian Institution. The membership of the Advisory Council encompasses the principal museum disciplines--art, science, and history--and is broadly representative of all regions of the United States. The Council advises and assists the Secretary in determining priorities and assessing the quality of individuals and programs seeking support under the Act.

The needs of the museum profession are great. The National Museum Act is a technical assistance program granting funds for specific proposals which advance the museum profession at large, either through training, research, publication, or professional assistance. Through these programs, current museum personnel have the opportunity to improve their skills and new personnel entering the profession have the opportunity to receive training which was not available previously.

Need for Increase

In the current fiscal year a total of 17 projects have been funded in the amount of \$290,740. The balance will be awarded at the February 1973 and May 1973 meetings of the Advisory Council. Nine of these proposals were in the area of training museum personnel; for example--(1) stipend support for graduate training in conservation, (2) a program to develop a series of technical training audio cassette tapes for personnel of history museums, (3) stipend support for graduate students in museum studies for members of minority groups, and (4) support for six regional seminars on the problems of urban museums. Three other proposals will provide professional assistance and consultation to small museums in the area of paper conservation and general management. Two projects will support publication--(1) in the area of craft documentation and (2) on historical preservation agencies and museum practices. Three proposals support research projects--(1) preservation of wooden ethnographic specimens, (2) computerization and data banking for museums, and (3) an analysis of financial resources and salary structure of the nation's museums.

For the first half of FY 1973, ninety-nine proposals have been received. The total sum of these applications exceeds \$4.5 million. It is reasonable to expect the number of proposals and sum to more than double by the end of the fiscal year. In funding proposals the Advisory Council has insisted that all proposals clearly demonstrate how the project will upgrade the profession--its techniques, methods, and approaches.

In addition to reviewing and processing grants, the Office of Museum Programs received over 750 inquiries about museum methods, problems, and opportunities. At the working level, the Smithsonian Institution and the National Endowment for the Arts and the National Endowment for the Humanities, through their respective offices of museum programs, regularly consult and review programs in order to avoid overlap.

Based upon the positive response of the museum profession to the National Museum Act, the quality of the specific requests, and the great needs of the profession, funding at the \$899,000 level will permit the Smithsonian to support more fully all aspects of the National Museum Act.

SMITHSONIAN INSTITUTION SPECIAL PROGRAMS

These special programs have as their goal the use of total Institutional resources, including staff research competence, collections, and space for exhibits, to produce outstanding scholarship, exhibits and other presentations, and additional opportunities for public education. These special programs include:

- The Bicentennial of the American Revolution Program which will advance the Institution's efforts to celebrate and portray "The American Experience," the first two-hundred years of American history and what they may mean for the future.
- The Environmental Sciences Program is designed to shed light on complex biological processes which need to be better understood before solutions to national ecological problems can be determined.
- The Major Exhibits Program is aimed at planning and producing new permanent exhibits of unusual national significance and timeliness.
- The Academic and Educational Programs budget provides opportunities for outstanding pre- and post-doctoral investigators from across the nation to be selected for work under the supervision of the Institution's professional staff. External education services are provided by means of popular museum tours for school children and other education services.
- The Research Awards Program enables the Institution to fund especially meritorious studies through a competitive selection process.

Full descriptions of these programs appear in the following sections of this budget.

AMERICAN REVOLUTION BICENTENNIAL PROGRAM

(Dollars in thousands)	Base FY 1973	Increase Requested	Est. FY 1974
No. of Permanent Positions.....	<u>2</u>	<u>-</u>	<u>2</u>
11 Personnel Compensation.....	141	147	288
12 Personnel Benefits.....	12	12	24
21 Travel & Trans. of Persons..	11	52	63
22 Transportation of Things....		30	30
23 Rent, Comm. & Utilities.....	1	4	5
24 Printing and Reproduction...	9	99	108
25 Other Services.....	520	415	935
26 Supplies and Materials.....	10	165	175
31 Equipment.....	50	76	126
32 Lands and Structures.....			
41 Grants.....			
TOTAL	<u>754</u>	<u>1,000</u>	<u>1,754</u>

Analysis of Increase

Pay Increase.....	-
Program.....	1,000

Specification of Increase (Program):

Scholarly, Exhibits, and National Outreach Projects (\$1,000,000). An increase of \$1,000,000 for a total planned program effort of \$1,754,000 is requested to produce an array of scholarly, exhibit, and national outreach projects in celebration of the Nation's 200th anniversary. These will include major exhibits in six museums and galleries, important documentary and bibliographic projects concerning American Art and North American Indians, traveling exhibits, a major Festival of American Folklife, and an exhibits production training laboratory for minority group persons.

1972 Actual.....	\$ 356,000
1973 Appropriation.....	\$ 754,000
1974 Estimate.....	\$1,754,000

The Smithsonian Institution is preparing to play a central and major role in the celebration of the American Revolution Bicentennial in the Nation's Capital as well as throughout the country. Taking the purpose, in President Nixon's words, of "...a new understanding of our heritage," the Smithsonian has chosen as an overall theme for its Bicentennial program, The American Experience. Many aspects of man's life and work in America, both past and present, are being researched. Individual projects encompass his social, political, and military institutions; his fine arts, his applied arts, and his performing arts; his use of natural resources; and his adventures of exploration on this planet and into outer space. Almost every department is engaged in Bicentennial related projects ranging from scholarly studies on our American past to major exhibits and an entire new museum.

The program will phase out after 1976, but most of the projects are being designed to produce accomplishments which will remain for permanent inspiration and education.

An appropriation of \$1,754,000 will be used for the continued development of the following projects.

Special Bicentennial Exhibits

"A Nation of Nations" (National Museum of History and Technology)	\$ 800,000
"Ecology USA/200" (National Museum of Natural History)	\$ 140,000
"Centennial - 1876" (Arts and Industries Building)	20,000
"The Artist and the American Scene" (National Collection of Fine Arts) and "Design in the City" (Renwick Gallery)	90,000
Series of exhibits on the Revolution period (National Portrait Gallery)	<u>150,000</u>
	\$1,200,000

Scholarly Projects

Inventory of American Paintings before 1914 (National Collection of Fine Arts)	\$ 80,000
Bibliography of American Art (Archives of American Art)	50,000
Encyclopedia of North American Indians (Center for the Study of Man)	<u>30,000</u>
	\$ 160,000

National Outreach

Traveling exhibits	\$ 150,000
Bicentennial Festival of American Folklife (Division of Performing Arts)	150,000
Exhibits Design and Production Laboratory (Anacostia Neighborhood Museum)	<u>45,000</u>
	\$ 345,000
<u>Planning, Design, and Coordination</u>	<u>49,000</u>
	\$1,754,000

Full details on the Bicentennial program are contained in the special supplementary brochure submitted with the budget request.

ENVIRONMENTAL SCIENCES PROGRAM

(Dollars in thousands)	Base <u>FY 1973</u>	Increase <u>Requested</u>	Est. <u>FY 1974</u>
No. of Permanent Positions.....	<u>8</u>	<u>-</u>	<u>8</u>
11 Personnel Compensation.....	102	2	104
12 Personnel Benefits.....	9		9
21 Travel & Trans. of Persons..	32	-5	27
22 Transportation of Things....	1		1
23 Rent, Comm. & Utilities.....			
24 Printing and Reproduction...	7	-5	2
25 Other Services.....	75	-57	18
26 Supplies and Materials.....	14	-8	6
31 Equipment.....	33	-25	8
32 Lands and Structures.....			
41 Grants.....			
TOTAL	<u>273</u>	<u>-98</u>	<u>175</u>

Analysis of Increase

Pay Increase.....	2
Program.....	-100

Specification of Increase (Program):

Environmental Monitoring System. The Environmental Sciences Program was established in FY 1971 to provide coordinated environmental research at the Smithsonian. As a result of the Program a plan has been developed by the bureaus of the Smithsonian to assemble and analyze biological and physical data on specific important ecosystems to predict the consequence of environmental change. Two Smithsonian research facilities, the Smithsonian Tropical Research Institute and the Chesapeake Bay Center for Environmental Studies, are the principle sites being used to carry out these studies. The program will operate at a reduced level in FY 1974 because of the lower funding level that can be budgeted.

1972 Actual.....	\$268,000
1973 Appropriation....	\$273,000
1974 Estimate.....	\$175,000

The Smithsonian Institution has unique research capabilities as a result of experienced personnel and the largest collections of plants and animals in the world, with detailed distribution and abundance data. This provides the basis for an effective global environmental monitoring system. The Smithsonian has the capability to measure natural and man-induced variation in the characteristics of solar radiation reaching the earth and causes of such variations. The Institution is studying, as a function of time, various biological correlates. These studies are facilitated because it has permanent and protected field-research sites in both temperate and tropical zones. In addition, the Smithsonian enjoys particularly favorable relations with its scientific colleagues and institutions in virtually every country of the world.

The Environmental Sciences Program is a well integrated, inter-bureau plan with specific objectives. During FY 1971 and FY 1972, activity was limited to such priority items as monitoring rates of biological and physical change and using plants and animals as benchmarks and bioindicators in the establishment of environmental standards. In FY 1972 and 1973, increased financial support has enabled the Smithsonian to develop a plan to assemble and analyze biological and physical data on specific important ecosystems to predict the consequence of environmental change.

Two Smithsonian research facilities, the Smithsonian Tropical Research Institute and the Chesapeake Bay Center for Environmental Studies, are principally used to carry out these studies. The major objectives of the FY 1973 program are to study selected tropical and temperate areas to understand the factors contributing to the fluctuations in populations. This is being done in the following manner:

- a. by monitoring and evaluating the physical and chemical environments of selected study sites;
- b. by studying the biology and quantitative distribution of principal organisms at these sites; and
- c. by studying the interrelationships of the environment with these organisms and man.

As a result of the decrease in program funds that can be budgeted for FY 1974, the marine shallow water and deciduous forest ecosystems studies will operate at a reduced level of effort.

An increase of \$2,000 is requested for necessary pay.

MAJOR EXHIBITION PROGRAM

(Dollars in thousands)	<u>Base FY 1973</u>	<u>Increase Requested</u>	<u>Est. FY 1974</u>
No. of Permanent Positions.....	-	-	-
11 Personnel Compensation.....			
12 Personnel Benefits.....			
21 Travel & Trans. of Persons..	13	-5	8
22 Transportation of Things....			
23 Rent, Comm. & Utilities.....			
24 Printing and Reproduction...	20	-10	10
25 Other Services.....	630	-383	247
26 Supplies and Materials.....	4		4
31 Equipment.....	82	-32	50
32 Lands and Structures.....			
41 Grants.....			
TOTAL	<u>749</u>	<u>-430</u>	<u>319</u>

Analysis of Increase

Pay Increase.....	-
Program.....	-430

Specification of Increase (Program):

Preparing Major Presentations for the Public (No increase required). The Smithsonian proposes to use \$319,000 of its appropriation for the first phases of three new permanent exhibits in order to continue the revitalization program initiated in FY 1972. With funding provided in FY 1972 and 1973, the Institution is preparing "It All Depends," an important exhibit on environmental awareness, and "Of the People, By the People, For the People," a major presentation on American government. The FY 1974 plan calls for work on three proposed additional such exhibits.

-An amount of \$248,000 will be spent on research, design, and preliminary production of "Benefits of Flight," an exposition of the many applications on earth of the extensive knowledge gained in the course of developing air and space flight. This exhibit will later be relocated in the new National Air and Space Museum.

-An amount of \$40,000 will be devoted to planning and designing an exhibit on Ecological Archaeology, replacing the 1954 Latin American Archaeology exhibit in the National Museum of Natural History with a fresh, new approach to the study of Western Hemisphere culture.

-Finally, an amount of \$31,000 will be used to plan a special exhibition, with the potential for a traveling version, drawing upon the Smithsonian's full resources relating to our national heritage.

1972 Actual.....	\$525,000
1973 Appropriation.....	\$749,000
1974 Estimate.....	\$319,000

The major permanent exhibitions of the Smithsonian Institution are nationally and internationally recognized as among the best examples of public communication and education in the museum world. In FY 1972, the Major Exhibition Program's approach to planning and budgeting was established to enable the Smithsonian to revitalize the permanent exhibit program by producing highly significant presentations on new and relevant knowledge in the fields of science, technology, and history. The new exhibits are installed in the existing public spaces of the Smithsonian museum buildings. With funding provided in FY 1972 and 1973 the Institution is preparing "It All Depends", an exhibit on environmental awareness, and "Of the People, By the People, For the People", a major presentation on American Government.

The purpose of museums is to educate as well as to entertain. In order to function effectively in both capacities, it is necessary to widen the scope of the visitor's participation in the museum experience. If the educational aspects of the museum are to have a lasting impact on the museum-goer, this is especially important. The presentation of new exhibitions on topics that are meaningful to the visitor and relate to his place in history, as well as his day-to-day existence, are essential to the museum function. Further, the museum must broaden the participation of the visitor by: properly orienting him, as he arrives, to the exhibits available; adequately explaining individual objects in the context of the particular exhibition; and providing educational materials that can be taken home to be read and studied. Each of the major exhibitions will include a related popular publication.

To continue this program, the first phases of the following permanent exhibition programs are proposed for FY 1974:

- "Benefits From Flight" in the National Air and Space Museum, \$248,000;
- "Ecological Archaeology" in the National Museum of Natural History, \$40,000; and a
- Special Museum Programs Presentation, requiring \$31,000.

Benefits From Flight (\$248,000)

The National Air and Space Museum proposes a unique major exhibition directed to two important goals:

1. Exemplifying the many applications on earth of the extensive knowledge gained in the course of developing air and space flight.
2. Communicating to the visiting public the myriad specific possibilities for further applications, using the museum as a catalyst in the transfer process.

Man's progress into the third dimension has been spectacular, resulting not only in diverse vehicles and systems, but in many novel materials, computation systems, manufacturing processes, power sources, electronic principles, and control methods.

How has our quality of life been affected by these expensive advances? To what extent has the American taxpayer benefited so far, and what can he expect in the future? "Benefits From Flight" will address itself to these questions.

Preliminary planning for the exhibit was begun in FY 1972 and is continuing through FY 1973. The exhibit will be designed to be one of the central, permanent exhibitions in the new National Air and Space Museum to be opened on the Mall in July 1976 (FY 1977). Modular design will allow it to open to the public in existing temporary quarters in FY 1975.

"Benefits From Flight" will use new techniques to transform complex principles and devices into easily understood examples of applications in such diverse fields as health care, housing, education, law enforcement, industrial productivity, recreation, personal transportation, waste management, and environmental effects. While designed primarily for the lay visitor, a catalog with an extensive list of source material will be available for those interested in pursuing further research. Thus the exhibit will not be an end in itself, but will serve as a catalyst for stimulating greater transfer of information between supplier and user. With an estimated four million visitors a year, "Benefits From Flight" can serve as a powerful and productive channel for this sorely needed technology transfer process. Sketches of tentative exhibits are shown on following pages.

The exhibition is estimated to cost \$468,000 and will require approximately two years to complete. \$248,000 is requested in FY 1974 for research, design, and preliminary production of exhibit structures. An amount of \$220,000 will be requested in FY 1975 to complete all exhibit content, graphics, and audio visual components, as well as publications related to the exhibit.

Ecological Archaeology (\$40,000)

This exhibition is planned to replace the oldest of the existing, permanent exhibitions in the National Museum of Natural History, the Hall of Latin American Archaeology, opened in 1954. The new exhibit will be on the same subject matter but in a dramatically new and updated scientific interpretation of the subject. The ecological approach of today's archaeologists and the theme of presentation completely outdates the existing exhibition. The exhibit will use specimens unique to the museum's collections and will be prepared under the direction of the museum's staff of scholars who are among the leading proponents of the science of archaeology as a study of human ecology.

Modern archaeology may provide a key and offer new insights for long-range predictions on man's utilization of his environmental resources. It is no accident that the high civilizations of the Western Hemisphere developed where they did. Archaeology--the science of reconstructing the history of man's past without the benefit of written records--is providing the information needed to better understand why certain societies flourished while others disappeared. These reconstructions lead into the early documented historical records and the early ethnological studies. Data on past cultures in the Western Hemisphere help in understanding present-day situations, clearly illustrating various adaptations and exploitations of man in environments that range from tropics through deserts and mountains to inter-montane valleys. The history of the development of the American Indian in the Western Hemisphere may well make meaningful and far-reaching contributions to modern civilization.

This exhibition will provide a new approach to the science of archaeology never before presented in any museum in the world. It will encourage the visitor to appreciate the heritage of various cultures of the Western Hemisphere so that they can better understand the present situations and stresses as mankind seeks to adapt to a way of life balanced with his environment. The exhibition will require two years' effort to complete.

It is estimated that planning and design (\$40,000) can be completed in FY 1974. The costs of production and installation are estimated at \$425,000 which will be requested in FY 1975.

Special Museum Programs Presentation (\$31,000)

The Institution has the responsibility to produce special exhibitions utilizing the full expanse of Institution resources in public presentations. It is also important to investigate the communication potentials of all museum exhibition techniques and methodologies. As an initial program the Smithsonian would like to develop and plan a special exhibition to be presented on the Mall and, in a traveling version throughout the United States, on the theme of the

Smithsonian Institution as a national center for the preservation, study, and presentation of our national heritage. Initial planning, requiring \$31,000, will be completed in FY 1974. These efforts will produce specific requests for detailed design and production funding in subsequent fiscal year budget requests.

ACADEMIC AND EDUCATIONAL PROGRAMS

(Dollars in thousands)	<u>Base</u> <u>FY 1973</u>	<u>Increase</u> <u>Requested</u>	<u>Est.</u> <u>FY 1974</u>
No. of Permanent Positions.....	<u>23</u>	<u>1</u>	<u>24</u>
11 Personnel Compensation.....	236	18	254
12 Personnel Benefits.....	21	1	22
21 Travel & Trans. of Persons..	8		8
22 Transportation of Things....			
23 Rent, Comm. & Utilities.....			
24 Printing and Reproduction...	8		8
25 Other Services.....	419	1	420
26 Supplies and Materials.....	27	1	28
31 Equipment.....	10	1	11
32 Lands and Structures.....			
41 Grants.....			
TOTAL	<u>729</u>	<u>22</u>	<u>751</u>

Analysis of Increase

Pay Increase.....	7
Program.....	15

Specification of Increase (Program):

Elementary and Secondary Education (1 position; \$15,000). Among its other responsibilities, this program provides coordination, supervision, and directional development of docent and tour activities involving elementary and secondary school systems. It prepares teaching guides, audio-visual aids, and other educational materials directed at pre-college students. It conducts teacher workshops and provides a centralized focus for inquiries concerning various museum projects and activities of interest to school groups. In FY 1972 the program served 72,000 students in 2,467 scheduled tours; conducted 50 demonstrations in folk musical instruments in school classrooms; trained and administered volunteers for 350 weekend tours and for summer tours in Mall museums; and developed printed materials for self-directed tours in each Mall museum for grades kindergarten through third. In FY 1973 it will expand tour offerings and increase the number of students served to 78,000, extend additional services to the schools, and expand the bulletin for schools to six issues (now four) going to 1,000 schools in D. C. area. In order to meet a growing public service workload in existing museums and to begin to plan for the tour program of the new National Air and Space Museum, an additional staff associate position (\$12,000) and program funds (\$3,000) are requested in the FY 1974 budget.

1972 Actual.....	\$653,000
1973 Appropriation.....	\$729,000
1974 Estimate.....	\$751,000

A major Smithsonian objective is to make its resources for learning available to the formal education community and to the general public. These efforts take the form of programs in higher education, seminar activities, and offerings at the elementary and secondary education level.

The budget request for FY 1974 includes a request for an additional \$15,000 for the elementary and secondary education program and \$7,000 for necessary pay for current staff.

Need for Increase

Since 1965 in its higher education program the Smithsonian has offered support under its Office of Academic Studies to 108 Ph. D. candidates and 108 postdoctoral

investigators to enhance their ability as scholars and teachers through collaboration and study with the Institution's research staff. Over 60 undergraduate and first and second-year graduate students have been offered the opportunity to consult the Institution's research staff and collections for short periods. These opportunities are extended both to strengthen the research capabilities of the Smithsonian and to make available to the scholarly and scientific community the Institution's specialized resources. Smithsonian research training augments formal academic studies. Its effectiveness derives from close cooperation with the nation's universities and colleges. They welcome opportunities for their students to receive specialized Smithsonian training which their own resources cannot provide.

The Office of Seminars is responsible for the Smithsonian's International Symposia Series, its biennial program of public activities centering on a single theme of contemporary importance, from which is published the collected original papers presented and other relevant material. Regular interdisciplinary lecture series are held annually, often in cooperation with other institutions of learning. The Office serves as a resource facility to universities, other organizations, and other branches of the government. In addition, the office coordinates special projects at the request of the Secretary and Assistant Secretaries.

Activities of the Office of Elementary and Secondary Education include the popular escorted lesson tours for school groups, the preparation of teacher guides, demonstrations, audio-visual and three dimensional object kits, and other services. The increasing demand by schools for use of the educational facilities of the Institution is leading to a heightened need for extending the offerings in several different and innovative directions. The following table shows the anticipated growth in services offered by this office.

	<u>FY 1972</u>	<u>FY 1973</u>	<u>FY 1974</u>
Docents	154	250	300
Tours	2,467	2,600	2,700
Students Served	72,000	78,000	82,000
Subject offerings	26	30	36

New tours will be developed in History and Technology around exhibits being planned for the Bicentennial celebration, and tours will be offered in Natural History with the opening of the new exhibits on Ecology. Projects will be undertaken for the production of special kinds of teaching materials to be utilized both with lesson tours in the museums and the outreach programs in the schools.

One new staff associate position (\$12,000) is needed to provide a close working relationship with the staff of the National Air and Space Museum in the support of the docent program for that Museum. It will be timely as well for the Office of Elementary and Secondary Education to become engaged in the expanding development of educational offerings in the aerospace subject fields preparatory to the opening of the new Air and Space Museum.

Outreach programs will be expanded to answer the need for curriculum oriented materials applicable for classroom use in the schools of the local area. For teachers to become familiar with the use of such materials and for firsthand awareness of the offerings within the museums, workshops involving teachers, staff, and docents will be conducted. Opportunities will be afforded to students in schools of education to have assignments on a part-time internship basis to study and observe ongoing museum education activity.

Additional funding will be used as well for further expansion of the school tour program involving docent training and the preparation of teaching materials (\$3,000).

SMITHSONIAN RESEARCH AWARDS PROGRAM

(Dollars in thousands)	<u>Base FY 1973</u>	<u>Increase Requested</u>	<u>Est. FY 1974</u>
No. of Permanent Positions.....	<u>-</u>	<u>-</u>	<u>-</u>
11 Personnel Compensation.....			
12 Personnel Benefits.....			
21 Travel & Trans. of Persons...			
22 Transportation of Things....			
23 Rent, Comm. & Utilities.....			
24 Printing and Reproduction...			
25 Other Services.....			
26 Supplies and Materials.....			
31 Equipment.....			
32 Lands and Structures.....			
41 Grants.....	<u>450</u>	<u>-</u>	<u>450</u>
 TOTAL	<u>450</u>	<u>-</u>	<u>450</u>

Analysis of Increase

Pay Increase.....	-
Program.....	-

Specification of Increase (Program):

The Research Awards Program finances innovative, non-routine research projects which cannot be supported from the regular budgets of the bureaus. Since 1966, 329 proposals have been funded through the Program, and more than 200 publications which are directly related to the research have been produced. No program fund increase is being requested for FY 1974.

1972 Actual.....	\$425,000
1973 Appropriation.....	\$450,000
1974 Estimate.....	\$450,000

Prior to FY 1966, the Smithsonian Institution received funds from the National Science Foundation (NSF) for special research projects of individual staff members. In 1964, the Congress prohibited the NSF from making grants for scientific research to other Government agencies. The NSF instituted a further limitation that it would no longer make grants to any agency or institution receiving direct Federal appropriations. The Research Awards Program was begun in FY 1966 by an appropriation of \$350,000 to the Smithsonian Institution for the purpose of financing new or continuing research projects formerly eligible for support from NSF.

Proposals are submitted each year by members of the Smithsonian Institution staff to support new and innovative research. All proposals have undergone a careful scientific or scholarly review in their respective bureaus before they are reviewed by an Advisory Committee of scientists from outside the Institution. Projects are selected on the basis of their showing an imaginative and exciting approach to research and scholarship efforts that could not normally be carried out with regularly budgeted departmental funds.

The work supported by the Research Awards Program is often the best of the Institution's productivity and the reason for acquiring professional staff of the highest competence and imagination. If the Smithsonian cannot provide this kind of support, it might not attract high caliber persons, nor retain them. Further, the program provides an opportunity for our researchers to engage in collaborative field research with colleagues located in other institutions. Many opportunities for participation in expeditions and other field projects would be lost were it not

for the Research Awards Program providing modest, but essential, research assistance. The problem affects all the research bureaus.

In FY 1973, members of the Smithsonian staff again submitted proposals for funding up to three years in order to provide for better stability, continuity, and planning of research. Of the 75 proposals received for FY 1973 amounting to \$1,685,648, 39 were funded in the amount of \$450,000. It is intended that the program will operate at this level in FY 1974.

OFFICE OF THE SECRETARY

(Dollars in thousands)	<u>Base FY 1973</u>	<u>Increase Requested</u>	<u>Est. FY 1974</u>
No. of Permanent Positions.....	<u>24</u>	<u>1</u>	<u>25</u>
11 Personnel Compensation.....	326	31	357
12 Personnel Benefits.....	27	3	30
21 Travel & Trans. of Persons..	10		10
22 Transportation of Things....			
23 Rent, Comm. & Utilities....	2	-	2
24 Printing and Reproduction...	1		1
25 Other Services.....	48		48
26 Supplies and Materials.....	7		7
31 Equipment.....	4		4
32 Lands and Structures.....			
41 Grants.....			
TOTAL	<u>425</u>	<u>34</u>	<u>459</u>

Analysis of Increase

Pay Increase.....	6
Program.....	28

Specification of Increase (Program):

A program assistant (\$28,000) in the Office of the Assistant Secretary is needed to provide the Executive Committee with a staff member to research problems and issues prior to their presentation before the Secretary and the Executive Committee.

1972 Actual.....	\$391,000
1973 Appropriation....	\$425,000
1974 Estimate.....	\$459,000

The Office of the Secretary is responsible for planning, implementing, and reviewing the progress of all Smithsonian operations.

The Office of the Secretary is composed of the immediate Office of the Secretary, the Secretary's Files, the Office of the Assistant Secretary, and the Curator of the Smithsonian Institution Building.

A program increase of \$28,000 is sought for FY 1974 and \$6,000 for necessary pay.

Need for Increase

The Secretary, Assistant Secretaries, Director of Support Activities, Treasurer, and General Counsel constitute the internal "Executive Committee." They meet weekly to review progress in various areas of management concern. This group is beginning a major effort to identify, define, and resolve significant

operating issues related to all museum, gallery, and support operations in the Smithsonian complex. These issues relate both to the Institution's current operations and to its future growth and development.

A program assistant (\$28,000) in the Office of the Assistant Secretary is needed to provide the Executive Committee with a staff member to research problems and issues prior to their presentation before the Secretary and the Executive Committee.

OFFICE OF THE GENERAL COUNSEL

(Dollars in thousands)	Base FY 1973	Increase Requested	Est. FY 1974
No. of Permanent Positions.....	<u>10</u>	<u>1</u>	<u>11</u>
11 Personnel Compensation.....	170	27	197
12 Personnel Benefits.....	14	2	16
21 Travel & Trans. of Persons..			
22 Transportation of Things....			
23 Rent, Comm. & Utilities.....	1		1
24 Printing and Reproduction...			
25 Other Services.....	2		2
26 Supplies and Materials.....	1		1
31 Equipment.....	4	1	5
32 Lands and Structures.....			
41 Grants.....			
TOTAL	<u>192</u>	<u>30</u>	<u>222</u>

Analysis of Increase

Pay Increase.....	5
Program.....	25

Specification of Increase (Program):

Legislative Assistant (1 position; \$25,000). An additional position is needed to assist in the analysis of Congressional activities and legislation in relation to Smithsonian programs and administration. The development of new areas of the law, both substantive and procedural, and the complexity and volume of Congressional inquiries place a premium on having one person fully conversant with Congressional protocol, legislative procedures, and the full range of Smithsonian programs, who would specialize in these matters and serve as a focal point for all Congressional related inquiries and referrals.

1972 Actual.....	\$213,000
1973 Appropriation.....	\$192,000
1974 Estimate.....	\$222,000

The Office of the General Counsel handles the legal matters of some forty different line programs and ten staff offices of the Institution, and at the same time, advises the Secretary and the Board of Regents on the administration of the Institution as a whole. The legal problems of the Institution include those arising from the operations of a private, university-like, charitable corporation, as well as those common to Government organizations and include: the limitations and obligations of Smithsonian operations in relation to the functions, authorities, and regulations of other Government entities; its legislative histories and authorities and those of its offices and bureaus; the use of trust funds; litigation in which the Institution is a party; application of judicial decisions and Executive Branch directives and regulations to its administration; title to accessions by gift, loan, transfer, or purchase; proposed contracts and agreements; tort claims and settlements; excise, sales, and gift taxes, deductions, and exemptions; patents; copyrights; and many areas of international law.

The FY 1974 budget contains a request for \$25,000 for a senior legislative analyst and office support costs. A further amount of \$5,000 is required for necessary pay.

Need for Increase

An increasingly important and demanding function of the Counsel's Office is the analysis of Congressional activities and legislation in relation to Smithsonian programs and administration. The development of new areas of the law, both substantive and procedural (e.g. Environmental Law, Occupational Safety and Health Standards, Freedom of Information Act), and the complexity and volume of Congressional inquiries place a premium on having one person fully conversant with Congressional protocol, legislative procedures, and the full range of Smithsonian programs, who would specialize in these matters and serve as a focal point for all Congressional related inquiries and referrals. It is therefore proposed to establish within the Office the position of senior legislative analyst at a cost of \$24,000.

An increase of \$1,000 in support funds for library materials, for the continued legal education of the legal staff through the attendance of conferences, and for office equipment also is requested.

OFFICE OF THE TREASURER

(Dollars in thousands)	Base <u>FY 1973</u>	Increase <u>Requested</u>	Est. <u>FY 1974</u>
No. of Permanent Positions.....	<u>35</u>	<u>1</u>	<u>36</u>
11 Personnel Compensation.....	408	22	430
12 Personnel Benefits.....	35	2	37
21 Travel & Trans. of Persons..	3		3
22 Transportation of Things....			
23 Rent, Comm. & Utilities.....	233	10	243
24 Printing and Reproduction...			
25 Other Services.....	56		56
26 Supplies and Materials.....	11		11
31 Equipment.....	8		8
32 Lands and Structures.....			
41 Grants.....			
TOTAL	<u>754</u>	<u>34</u>	<u>788</u>

Analysis of Increase

Pay Increase.....	9
Program.....	25

Specification of Increase (Program):

Postage Indicia (\$10,000). To fund the increased cost of postage indicia from \$220,000 in FY 1973 to an expected \$230,000 in FY 1974.

Accounting (1 position; \$15,000). To fund a cost accountant to implement the redesigned accounting system and to develop centralized cost accounting for such activities as buildings management and exhibits.

1972 Actual..... \$647,000
 1973 Appropriation..... \$754,000
 1974 Estimate..... \$788,000

This office provides financial management assistance and technical services to the Smithsonian. It is composed of the Treasurer's immediate Office, the Office of Programming and Budget, and the Accounting Division. Financial planning, budgeting, accounting, insurance and contracts administration, and reporting are the responsibilities of these several units.

An increase of \$25,000 is requested to finance higher postal costs, and to provide for one additional staff member in the Accounting Division. An amount of \$9,000 is needed for necessary pay.

Need for Increase

Postage Indicia (\$10,000)

Funding of the Institution's postage indicia requirements is provided centrally from the Office of the Treasurer. An additional \$10,000 is required to meet the additional cost of postage. In FY 1972 postage was \$200,000. Increased use has resulted in this cost being \$220,000 in FY 1973. In FY 1974 the cost is expected to be \$230,000.

Accounting (1 position, \$15,000)

The volume of financial and accounting transactions has increased substantially over the past two years, partly as a result of increased Federal funding and partly from the addition of full accounting and payroll services for the National Zoological Park, Woodrow Wilson International Center for Scholars, and the Smithsonian Tropical Research Institute. A wide range of reports are produced reflecting financial data in various forms of classification and presentation. These are furnished recipients of Federal and private budgets as well as central management for review, monitoring, and control purposes.

The workload of this office will continue to increase reflecting the volume of transactions and the development of a restatement of accounting principles and standards and redesign of the accounting system to meet the approval requirements of the Comptroller General.

In FY 1974, the Office requires a cost accountant to implement the redesigned accounting system and to develop centralized cost accounting for activities such as Buildings Management and Exhibits.

OFFICE OF PERSONNEL ADMINISTRATION

(Dollars in thousands)	Base FY 1973	Increase Requested	Est. FY 1974
No. of Permanent Positions.....	33	-	33
11 Personnel Compensation.....	412	4	416
12 Personnel Benefits.....	35		35
21 Travel & Trans. of Persons..	1		1
22 Transportation of Things....			
23 Rent, Comm. & Utilities.....	1		1
24 Printing and Reproduction...	2		2
25 Other Services.....	27	10	37
26 Supplies and Materials.....	1		1
31 Equipment.....			
32 Lands and Structures.....			
41 Grants.....			
TOTAL	479	14	493

Analysis of Increase

Pay Increase.....	4
Program.....	10

Specification of Increase (Program):

Training (\$10,000). The Office of Personnel Administration has responsibility for planning and arranging training programs for various levels and groups of Smithsonian personnel. An additional \$10,000 is requested for a program of executive training and development to ensure that Institutional managers are prepared to face the administrative challenges of the future.

1972 Actual.....	\$419,000
1973 Appropriation....	\$479,000
1974 Estimate.....	\$493,000

The Office of Personnel Administration has the responsibility for formulating policy over a wide range of activities for manpower planning and managerial development, through employee training, performance evaluation, and labor relations. These programs generally fall into six broad categories: consultant services; career development; administration and direction; technical, clerical and administrative support; recruitment and placement; and staff services.

The FY 1974 budget contains a request for an additional \$10,000 for executive training or development and \$4,000 for necessary pay.

Need for Increase

The availability of highly competent career executives is necessary to ensure the responsiveness of the Government to the needs of the society it serves. The Smithsonian must develop incumbent and potential executive talent to meet the challenges of the present and the future. Funding responsibility for training development programs for managers and executives is centralized in the Office of Personnel Administration. The requested \$10,000 will enable the Institution to strengthen its training efforts.

The following are some of the programs offered as assistance in planning to meet development needs of Smithsonian Institution managers, executives, and high potential middle managers. They are all continuing programs.

1. Legislative Operations Roundtable for Executives - increased knowledge of the organization and operations of the Congress
2. An Institute in the Legislative Function - intensive introduction to the organization, operations, and responsibilities of Congress
3. Education for Public Management - encourage agencies to identify men and women who have potential to hold high management positions
4. Executive Seminar Centers - designed to broaden conceptual understanding and to enhance the administration abilities of mid-level executives

OFFICE OF AUDITS

(Dollars in thousands)	Base FY 1973	Increase Requested	Est. FY 1974
No. of Permanent Positions.....	6	2	8
11 Personnel Compensation.....	92	28	120
12 Personnel Benefits.....	8	3	11
21 Travel & Trans. of Persons..	5		5
22 Transportation of Things....			
23 Rent, Comm. & Utilities.....			
24 Printing and Reproduction...			
25 Other Services.....	1		1
26 Supplies and Materials.....	1		1
31 Equipment.....			
32 Lands and Structures.....			
41 Grants.....			
TOTAL	107	31	138

Analysis of Increase

Pay Increase.....	1
Program.....	30

Specification of Increase (Program):

Reduction of Auditing Backlog (2 positions; \$30,000). The Institution's size, diversity, and variety of funding sources create a large volume of essential auditing assignments. Since its recent establishment, the Office of Audits has made important contributions to effective financial management; yet a large and growing backlog of important projects exists, beyond the capability of the current staff. With the addition of two auditors in FY 1974, the backlog of audit work can be significantly reduced. Also, this will enable the audit staff to re-audit functions on a more current basis to ensure implementation of previous recommendations.

1972 Actual.....	\$116,000
1973 Appropriation.....	\$107,000
1974 Estimate.....	\$138,000

The Office of Audits, established in FY 1970, is responsible for performing all internal auditing functions of the Smithsonian Institution. In order to ensure the utilization of effective management practices it is the policy of this office to audit all principal programs, including administrative, financial and supporting programs, during each five-year period.

A program increase of \$30,000 is requested for FY 1974. In addition \$1,000 is requested for necessary pay.

Need for Increase

With more than fifty operating units, programs, and staff offices, six major appropriation accounts, and a wide variety of other funds, there is a large volume of auditing to be done. Since this office was established, the audit staff has made significant contributions to effective financial management. Audits to date have covered a wide range including reviews of several management systems and close-out audits of foreign currency grants. As a result of these audits, potential problem areas have been identified and corrected, and management improvements have been initiated. Yet a large backlog of other important work exists.

The requested increase will permit the addition of two auditors (\$30,000). Their addition will enable the audit staff to reduce significantly the backlog of audit work, which includes such major operating units as the Buildings Management Department and the National Zoological Park, and to re-audit functions on a more current basis to ensure implementation of previous recommendations.

OFFICE OF EQUAL OPPORTUNITY

(Dollars in thousands)	Base <u>FY 1973</u>	Increase <u>Requested</u>	Est. <u>FY 1974</u>
No. of Permanent Positions.....	<u>3</u>	<u>2</u>	<u>5</u>
11 Personnel Compensation.....	53	38	91
12 Personnel Benefits.....	6	2	8
21 Travel & Trans. of Persons..	2		2
22 Transportation of Things....			
23 Rent, Comm. & Utilities.....			
24 Printing and Reproduction...	1		1
25 Other Services.....			
26 Supplies and Materials.....			
31 Equipment.....	1		1
32 Lands and Structures.....			
41 Grants.....			
TOTAL	<u>63</u>	<u>40</u>	<u>103</u>

Analysis of Increase

Pay Increase.....	-
Program.....	40

Specification of Increase (Program):

Extension of basic services (2 positions; \$40,000). To enable the Office to meet its responsibility to assure equality of opportunity in employment and in all policies and practices of the Institution, the following positions are requested: a civil rights officer, who will assist in the development of opportunities for minority employees and oversee the Civil Rights Compliance of Direct Assistance Programs and contracts and grants to insure that the recipients practice equal opportunity, and a Federal women's program coordinator, who will develop programs for the improvement of women's career advancement opportunities.

1972 Actual.....	\$ 64,000
1973 Appropriation.....	\$ 63,000
1974 Estimate.....	\$103,000

The Equal Opportunity Program, established by Executive Order 11246 and further implemented by the "Equal Employment Opportunity Act of 1972," enacted as Public Law 92-261, requires the Smithsonian to conduct a positive action program which will provide true equality in all Smithsonian employment practices.

A program increase of \$40,000 is requested in FY 1974 to permit the addition of a Federal women's program coordinator and a civil rights officer.

Need for Increase

The Secretary of the Institution has designated the Office of Equal Opportunity to develop and implement a program guiding the efforts of the Smithsonian Institution to provide equality of opportunity in all official actions.

Implementation of a recently issued comprehensive plan of action will provide improved recruitment practices, better utilization of minority skills, aid in the development of programs for career advancement for minority and women employees, and full implementation of a sixteen-point program for Spanish-speaking Americans.

A Smithsonian Women's Council has been established which will serve the unique concerns involving equal opportunity for women and will provide Federal and non-Federal women employees of the Smithsonian Institution a forum for the expression of mutual interests. The Federal women's program coordinator will

develop programs for the improvement of women's career advancement opportunities and will work with the Women's Council.

The civil rights officer will work to develop opportunities for minority employees and oversee the Civil Rights Compliance of Direct Assistance Programs and contracts and grants to insure that the recipients practice equal opportunity.

PHOTOGRAPHIC SERVICES DIVISION

(Dollars in thousands)	<u>Base FY 1973</u>	<u>Increase Requested</u>	<u>Est. FY 1974</u>
No. of Permanent Positions.....	<u>29</u>	<u>-</u>	<u>29</u>
11 Personnel Compensation.....	347	6	353
12 Personnel Benefits.....	30		30
21 Travel & Trans. of Persons..	1		1
22 Transportation of Things....			
23 Rent, Comm. & Utilities.....			
24 Printing and Reproduction...	30		30
25 Other Services.....	15		15
26 Supplies and Materials.....	40		40
31 Equipment.....	57		57
32 Lands and Structures.....			
41 Grants.....	<u> </u>	<u> </u>	<u> </u>
TOTAL	<u>520</u>	<u>6</u>	<u>526</u>

Analysis of Increase

Pay Increase.....	6
Program.....	-

Specification of Increase (Program):

Photographic services are provided centrally from this Division. These services include the following: photographs, slides, and transparencies for the general public, schools, research foundations, educational publications, other museums, and government agencies, as well as to meet the Institution's own research, publication, and exhibit needs. No program fund increase is requested for FY 1974.

1972 Actual.....	\$368,000
1973 Appropriation....	\$520,000
1974 Estimate.....	\$526,000

The Photographic Services Division coordinates photographic activities and projects in the Institution and supplies technical photographic support to the curatorial, scientific, technical, and administrative staffs. It also provides photographs, slides, and transparencies to the general public, schools, research foundations, educational publications, other museums, and government agencies. Advice and guidance is provided by the technical photographers on Smithsonian projects and exhibits requiring photographic input. Preservation of valuable old photograph collections and documents is achieved through highly technical photographic processes.

The types of physical photographic support are in the fields of microfilming, copy, and restoration, microphotography, macrophotography, catalog photography, studio and field location assignments, motion picture photography, color and black and white processing, black and white printing, slide and transparency duplication, and exhibit and mural photographs.

Photographs are used for scientific and technical publications, lectures, education, distribution to the public, conferences and scientific meetings. They are also needed for accession records, preservation and restoration, and conservation of the Smithsonian collections.

Production figures for calendar year 1972 amounted to 7,500 job requests from Smithsonian sources and public sources, and comprised 1,750 photographic studio

and location assignments and the preparation of 40,000 negatives, 10,000 items for copy, 500,000 frames of microfilming, 200,000 black and white prints, 5,000 color prints, and 30,000 original and duplicate slides and transparencies. The photographic library logged and filed approximately 50,000 new negatives and original slides and began the long-range task of captioning, indexing and computerizing the one million negatives and transparencies owned by the Institution.

There are also at least 30 million documents, papers, rare books and other valuable records in a state of varying deterioration that must be microfilmed and/or copied for preservation. These documents are in the Smithsonian Archives, Registrar's Office, National Collection of Fine Arts, Department of Anthropology, Museum of History and Technology and many other divisions. The Division is presently processing 1/2 million of these records per year.

No program increase is sought for the Division. Necessary pay in the amount of \$6,000 is required.

INFORMATION SYSTEMS DIVISION

(Dollars in thousands)	Base FY 1973	Increase Requested	Est. FY 1974
No. of Permanent Positions.....	17	1	18
11 Personnel Compensation.....	270	21	291
12 Personnel Benefits.....	23	2	25
21 Travel & Trans. of Persons..	3		3
22 Transportation of Things....			
23 Rent, Comm. & Utilities.....	10	1	11
24 Printing and Reproduction...			
25 Other Services.....	13	3	16
26 Supplies and Materials.....	3		3
31 Equipment.....			
32 Lands and Structures.....			
41 Grants.....			
TOTAL	322	27	349

Analysis of Increase

Pay Increase.....	7
Program.....	20

Specification of Increase (Program):

Scientific Research Application (1 position; \$20,000). In FY 1974, the Smithsonian's Collection Management System, designed to provide automated retrieval and indexing of data pertaining to the national collections, will be further developed and applied throughout the various museums. Additional development will be required for the National Collection of Fine Arts Bicentennial Inventory of American Paintings. Systems design and programming will be initiated to assist the Smithsonian Oceanographic Sorting Center in handling the inventory of ocean bottom photographs and to assist the National Zoo in handling animal records and work planning and control.

During FY 1974 the Division must also meet an increasing demand for mathematical computations support by researchers throughout the Institution. A current backlog of 20 highly sophisticated projects exists with a rising demand for the application of new mathematical techniques to solve research problems.

To provide continued support and expanded application in the collections management and scientific research area, a mathematician is required (\$16,000) with support funds of \$4,000.

1972 Actual.....	\$267,000
1973 Appropriation.....	\$322,000
1974 Estimate.....	\$349,000

The Information Systems Division was established in 1966 so that the Institution could take advantage of computer technology. Computer specialists, mathematicians, and support personnel work with curators, historians, scientists, and management personnel to apply mathematical techniques to research problems and to develop automated administrative and collection management systems. Initially the Division's work concentrated largely on management support functions. Over the past three years, however, approximately 70 to 75 percent of the Division's resources have been expended in support of research and collection management.

A program increase of \$20,000 is requested for additional personnel and support funds. An additional \$7,000 is requested for necessary pay.

Need for Increase

In recent years, a better understanding of the computer's potential in relation to the programs of the museums, research areas, and galleries has evolved; and progress has been achieved. Presently scientific and collections management computer programs are being developed that can be utilized in several areas with minor modifications to reduce development costs. The Division maintains a computer program library containing 350 active programs and is currently serving researchers throughout the Institution. It provides statistical analysis assistance, designs mathematical models of research experiments, and researches and develops new techniques to analyze historical, biological, chemical, and geological data. Mathematical models and computer programs that have been developed are being used by the National Institutes of Health, Georgetown University, Brookhaven National Laboratory, and other organizations.

Significant ongoing projects include primate population dynamics research for the Division of Mammals to develop more effective gathering methods for medical research; a study for the Department of Anthropology to isolate skeletal disease patterns in different populations; a study for the Office of Environmental Sciences to explore the African antelope herd composition, behavior patterns, and extinction problems; and development of a multichemical model of tracing the manufacturing process of European medieval cathedral glass by analyzing neutron activation data of glass samples. Some 30 major projects were completed this past year. A current backlog of 20 increasingly sophisticated projects exists.

During FY 1974, the Smithsonian's Collection Management System, designed to provide automated retrieval and indexing of data pertaining to the national collections, will be further developed and applied throughout the various museums. Expected results will benefit the professional staff by providing catalogs, cross-referencing indices by categories for researchers and curators, better inventory control, and a future vehicle for responding to non-technical queries by the general public. Information that was formerly virtually impossible to obtain can now be made available with little effort once in computer form. The system also allows for economical means of exchanging data via magnetic tape without physically transporting the specimen or visiting other locations. Through an exchange program our own national collections can be enhanced.

Additional development will also be required for the National Collection of Fine Arts Bicentennial Inventory of American Paintings which will result in a descriptive subject file on each painting to assist the curator and to provide a tool for scholars.

In FY 1974, systems design and programming will be initiated for the Smithsonian Oceanographic Sorting Center to handle their inventory of ocean bottom photographs and for the National Zoo for handling animal records and for work planning and control.

In addition to the growth in computer projects related to collections management and systems support, the number of scientists requesting mathematical and statistical analysis and related computer programming has increased almost threefold over the past two years. Presently three mathematicians are providing support to approximately 78 scientists. In FY 1974 the number of scientists seeking support is expected to increase to 104.

To support these expanding efforts requiring the application of mathematical abilities, and to relieve the existing backlog of projects, the requirements are for a mathematician (\$16,000) with support funds (\$4,000).

SUPPLY DIVISION

(Dollars in thousands)	Base FY 1973	Increase Requested	Est. FY 1974
No. of Permanent Positions.....	<u>21</u>	<u>2</u>	<u>23</u>
11 Personnel Compensation.....	260	20	280
12 Personnel Benefits.....	22	1	23
21 Travel & Trans. of Persons..			
22 Transportation of Things....			
23 Rent, Comm. & Utilities.....	8		8
24 Printing and Reproduction...			
25 Other Services.....	6		6
26 Supplies and Materials.....	106		106
31 Equipment.....	2		2
32 Lands and Structures.....			
41 Grants.....	<u> </u>	<u> </u>	<u> </u>
TOTAL	<u>404</u>	<u>21</u>	<u>425</u>

Analysis of Increase

Pay Increase.....	6
Program.....	15

Specification of Increase (Program):

Purchasing Section (2 positions; \$15,000). During the past three years, the Institution has acquired new building space and additional staff, and its funds for general purchasing and contracting have grown very substantially. This overall growth has resulted in a much heavier workload for the Supply Division without an increase in personnel. In order to maintain effective operations in the future, an increase of two clerk typists for the purchasing section is requested.

1972 Actual.....	\$365,000
1973 Appropriation....	\$404,000
1974 Estimate.....	\$425,000

The Supply Division procures supplies, materials, contractual services, and equipment for research, curatorial, exhibit preparation, and other Smithsonian activities. It stocks and issues office, laboratory, and other supplies required in daily management operations. It operates a property management program, obtaining excess property in lieu of new procurement wherever possible. The Division maintains property records and requires periodic inventories to insure adequate control and utilization of equipment items.

For FY 1974 a program increase of \$15,000 is requested for procurement personnel. An additional \$6,000 is needed for necessary pay.

Need for Increase

The growth in research, exhibit, and educational programs has increased the requests to this division for services and supplies. In addition, procurement requirements will be further increased by the recently opened Renwick Gallery and the new Hirshhorn Museum.

During the period from FY 1970 to FY 1973, the Supply Division has not increased its total number of positions from 21. During this same period the overall Smithsonian has acquired new building space and additional staff, and its funds for general purchasing and contracting have grown very substantially. This overall growth has resulted in a much heavier workload for the Supply Division without an increase in personnel. Staff must be added to maintain an effective operation in the future. For this reason, an increase of two clerk typists for the purchasing section is requested (\$15,000).

MANAGEMENT ANALYSIS OFFICE

(Dollars in thousands)	Base FY 1973	Increase Requested	Est. FY 1974
No. of Permanent Positions.....	10	2	12
11 Personnel Compensation.....	162	29	191
12 Personnel Benefits.....	14	2	16
21 Travel & Trans. of Persons..			
22 Transportation of Things....			
23 Rent, Comm. & Utilities.....			
24 Printing and Reproduction...	1		1
25 Other Services.....	8		8
26 Supplies and Materials.....	1		1
31 Equipment.....			
32 Lands and Structures.....			
41 Grants.....			
TOTAL	186	31	217

Analysis of Increase

Pay Increase.....	6
Program.....	25

Specification of Increase (Program):

Management Analyst and Trainee (2 positions; \$25,000). The Management Analysis Office performs management studies and analyses in support of the Office of the Secretary. It develops, recommends, and implements effective business administration and management improvement programs within the Smithsonian Institution. Each year continually increasing workloads have developed into a backlog of essential work. The additional management analyst and trainee can help this office to reduce the backlog and to be more responsive to management improvement programs.

1972 Actual.....	\$168,000
1973 Appropriation.....	\$186,000
1974 Estimate.....	\$217,000

The Management Analysis Office performs management studies and analyses in support of the Office of the Secretary. It develops, recommends, and implements effective business administration and management improvement programs within the Smithsonian Institution. It provides management advisory services; makes studies and special surveys; develops organizational, functional, staffing and flow charts; prepares procedural manuals; and manages administrative issuances and forms management programs.

The FY 1974 budget request provides for a program increase of \$25,000 to add management analysis staff and a necessary pay increase of \$6,000.

Need for Increase

For the past ten years substantial growth in facilities, programs, and staff of Smithsonian Institution has far out-distanced the capability of the Management Analysis Office. Each year continually increasing workloads have developed into a backlog of essential work creating a situation in which the Management Analysis Office is finding it increasingly difficult to meet the demands of the Institution's expanded management improvement program goals and objectives.

The following are examples of backlogged work: Initiate and/or participate in analysis of all facets of collections management. Make an analysis of shipping and receiving functions with particular emphasis on handling and controlling museum collections. Study internal mail-messenger service. Make a survey of all printing and reproduction and related functions. Implement fully postal improvement regulations published in 1970. Participate in project to assess and define all Smithsonian's public service activities. Assist in and/or implement approved recommendations resulting from the survey of protection and security activities, including safety and occupational health. Design and implement a formal system for delegations of authority.

If this office is to perform an effective role at the level and quality expected, it must obtain the necessary funds to augment its staff. This FY 1974 budget provides funds for the employment of one additional professional management analyst and one trainee management analyst at a cost of \$25,000. With this additional manpower, this office can begin a reduction of the backlog of essential work and become less deficient in its response and effectiveness in meeting the requirements of new, expanded, and aggressive management improvement programs related to all museum, research, and support operations in the Smithsonian complex.

OFFICE OF PROTECTION SERVICES

(Dollars in thousands)	Base FY 1973	Increase Requested	Est. FY 1974
No. of Permanent Positions.....	332	46	378
11 Personnel Compensation.....	3,209	282	3,491
12 Personnel Benefits.....	272	26	298
21 Travel & Trans. of Persons...	1		1
22 Transportation of Things....			
23 Rent, Comm. & Utilities....			
24 Printing and Reproduction...			
25 Other Services.....	240		240
26 Supplies and Materials.....	47	5	52
31 Equipment.....	11	5	16
32 Lands and Structures.....			
41 Grants.....			
TOTAL	3,780	318	4,098

Analysis of Increase

Pay Increase.....	40
Program.....	278

Specification of Increase (Program):

Protection for New Halls and Exhibits (13 positions; \$75,000). Thirteen additional guards (\$75,000) are requested to provide adequate security for halls and exhibitions which have recently been opened or are to be opened to the public. Among these are the Book Store Exhibit, the Toy Exhibit, the Egyptology Hall, and the Planetarium/Spacearium. These new halls and exhibits have created additional posts and thereby seriously reduced the overall capability for Institutional surveillance and protection.

Hirshhorn Museum and Sculpture Garden (29 positions; \$170,000). An additional 29 guards (\$170,000) are needed for the protection of the Hirshhorn Museum and Sculpture Garden. The new museum will have initial occupancy early in FY 1974 and will open to the public in the latter part of FY 1974.

Overall Protection and Support (4 positions; \$33,000). Three additional guards (\$17,000) are requested to improve security at the major public entrances for proper surveillance and control, and an additional guard (\$6,000) is requested for necessary security outside the Smithsonian buildings. In addition, support funds of \$10,000 are also requested for supplies, materials, and equipment for the additional guards.

1972 Actual.....	\$3,506,000	<u>1/</u>
1973 Appropriation.....	\$3,780,000	<u>1/</u>
1974 Estimate.....	\$4,098,000	

The Office of Protection Services, established in FY 1973, is responsible for the protection, security, and health and safety functions of the Institution. The Office's initial funds and staff have been drawn from current protection resources administered by the Buildings Management Department and current health unit staff administered by the Office of Personnel Administration. This separate and centralized identity, as a major institutional program, emphasizes the high importance and priority given to the safeguarding of buildings, collections, staff, and visitors. By centralizing Protection Services, the Institution will improve planning, personnel selections and assignments, rotation policies, performance rating of supervisory and non-supervisory personnel, and orientation and training of personnel. This will eliminate a previously unsatisfactory condition where protection service people received a "buildings management" orientation rather than the "museum, collections, and visitor" orientation appropriate to their role in the Smithsonian. It is anticipated that Protection Services will reach a higher level of professionalism needed to insure the security of the Institution.

Concern has been steadily increasing for the protection and security of the Smithsonian's collections and exhibits, its facilities, its visitors, and its staff. The growing nature of the threat can be indicated in part by the increase in misdemeanors and felonious incidents occurring at the Smithsonian from 122 in 1971 to 232 in 1972. Compounding this threat are such factors as the dramatic growth in the number of visitors, the increased scope, variety, and value of the exhibits, the mounting volume of collections, and the additional responsibilities in such areas as occupational safety and health. Occupational health and safety has been included in Protection Services because of their close working relationship. When an incident occurs involving the health and safety of an individual, the first person contacted is the nearest guard. It is the guards duty to notify the health and safety people and ask for assistance. In 1972 there were 208 such incidents. In order to meet and fulfill the Office's additional responsibilities, the following actions are being taken: expansion of employee safety and fire protection programs, increased application of professional and technical expertise in physical and procedural protection systems, and improvement of guard force training.

The FY 1974 requested program increase of \$278,000 is to meet the growing demands for the protection of exhibits and additional building space. Funding of \$40,000 is requested for necessary pay.

Need for Increase

The present protection staff of 330 guards and supervisors provides physical security for the Smithsonian museums, art galleries, and the property housed therein. They are responsible for the control and security of all persons using the facilities which includes over 20 million annual visitors.

Thirteen additional guards (\$75,000) are requested to provide adequate security for halls and exhibitions which have recently been opened or are to be opened to the public. Among these are the Book Store Exhibit and Toy Exhibit in

1/ Estimations of the cost of protection and safety separately identified from Buildings Management and health service costs from the Office of Personnel Administration to provide a funding history.

the Museum of History and Technology; the Egyptology Hall in the Museum of Natural History; and the Planetarium/Spacearium in the temporary Air and Space Building. These new halls and exhibits have created additional posts and thereby seriously reduced the overall capability for Institutional surveillance and protection.

An additional 29 guards (\$170,000) are needed for the protection of the Hirshhorn Museum and Sculpture Garden. The new museum will have initial occupancy in the early months of FY 1974 with the public opening scheduled for the latter part of FY 1974. The 29 guards are needed to adequately man 20 eight-hour posts.

Three additional guards (\$17,000) are requested to improve security at the major public entrances for proper surveillance and control and an additional guard (\$6,000) is requested for necessary security outside the Smithsonian buildings.

Support funds of \$10,000 are also requested for supplies, materials, and equipment for the additional guards.

OTHER CENTRAL SUPPORT

(Dollars in thousands)	<u>Base FY 1973</u>	<u>Increase Requested</u>	<u>Est. FY 1974</u>
No. of Permanent Positions.....	<u>10</u>	<u>1</u>	<u>11</u>
11 Personnel Compensation.....	108	18	126
12 Personnel Benefits.....	8	1	9
21 Travel & Trans. of Persons..			
22 Transportation of Things....			
23 Rent, Comm. & Utilities.....	9		9
24 Printing and Reproduction..	2		2
25 Other Services.....	5		5
26 Supplies and Materials.....	15	10	25
31 Equipment.....		5	5
32 Lands and Structures.....			
41 Grants.....			
TOTAL	<u>147</u>	<u>34</u>	<u>181</u>

Analysis of Increase

Pay Increase.....	12
Program.....	22

Specification of Increase (Program):

Duplicating (1 position; \$22,000). One additional multilith operator and support funds for supplies to assist in handling increased workload and for equipment to replace obsolete folding machine and three-hole punch are requested.

Travel Services. These services include assistance in planning travel itineraries, obtaining tickets and reservations, and arranging meetings and conferences. No program fund increase is sought for this activity.

1972 Actual.....	\$165,000
1973 Appropriation....	\$147,000
1974 Estimate.....	\$181,000

This category includes the Travel Services Office and the Duplicating Section. The FY 1974 budget contains a request for an additional \$22,000 for duplicating services. Necessary pay in the amount of \$12,000 is sought for these two units.

The Travel Services Office assists official Smithsonian travelers in developing domestic and foreign travel plans, determining the estimated cost of proposed trips, planning the most economical routings consistent with the traveler's needs and with Government and Smithsonian Institution regulations, and in helping to assure that

excess foreign currencies are used in lieu of dollars in every possible instance. It applies tariffs to assure accuracy of charges quoted by the airlines; procures airline tickets and makes hotel/motel reservations within and outside the Washington area when requested; and assists in developing plans and budgets for conferences and meetings to be held in the Washington area and elsewhere throughout the world.

The Duplicating Section is responsible for producing a wide variety of printed materials for the Smithsonian Institution. Included are administrative issuances, news releases and reports, and informational materials produced by the research, curatorial, and exhibits activities.

Need for Increase

The service furnished by the Duplicating Section is important to the overall program functioning of the Smithsonian Institution. The personnel are well qualified and do an excellent job. But staffing and funding must increase to keep abreast of growing Institutional requirements. FY 1973 has started with a large increase in workload which was not anticipated. The current backlog of work is about four weeks.

The additional funds are necessary to meet the increased workload. One additional multilith operator is needed (\$7,000). One new folding machine and a three-hole punch are needed to replace the present obsolete machines. Additional funds are requested for supplies such as paper and ink (\$15,000).

BUILDINGS MANAGEMENT

(Dollars in thousands)	Base FY 1973	Increase Requested	Est. FY 1974
No. of Permanent Positions.....	521	73	594
11 Personnel Compensation.....	4,571	595	5,166
12 Personnel Benefits.....	389	55	444
21 Travel & Trans. of Persons..	4		4
22 Transportation of Things....			
23 Rent, Comm. & Utilities.....	2,260	35	2,295
24 Printing and Reproduction...	3		3
25 Other Services.....	722		722
26 Supplies and Materials.....	395	6	401
31 Equipment.....	92	25	117
32 Lands and Structures.....			
41 Grants.....			
TOTAL	8,436	716	9,152

Analysis of Increase

Pay Increase.....	119
Program.....	597

Specification of Increase (Program):

Hirshhorn Museum and Sculpture Garden (28 positions; \$223,000). Requirements for nine mechanics and 19 custodians and laborers, in addition to the 11 positions and \$98,000 already authorized, are needed to staff this new museum.

Utilities and Communications (\$35,000). An additional \$35,000 is requested to cover the rise in cost and consumption of electricity in existing buildings and increased cost of the Federal Telecommunication System.

Shortages in Custodial and Building Services (45 positions; \$339,000). The application of cleaning standards has verified a shortage in custodial and building services personnel. Forty-three additional janitors and laborers are requested to bring the services in all buildings up to an acceptable level. A space analyst and an engineering assistant to oversee new construction and capital development are also required.

1972 Actual.....	\$6,988,000
1973 Appropriation.....	\$8,436,000
1974 Estimate.....	\$9,152,000

Buildings Management supervises and provides those services which are essential to the operation and maintenance of nine major buildings, including the original Smithsonian Institution Building, the Arts and Industries Building, the Natural History Building, the History and Technology Building, the Air and Space Building, the Freer Gallery of Art, the Fine Arts and Portrait Galleries Building (housing the National Portrait Gallery and the National Collection of Fine Arts), the Renwick Gallery, and the Hirshhorn Museum and Sculpture Garden. The Department performs various combinations of the basic functions and supporting services for research, collection, special purpose, and support facilities, including the Oceanographic Sorting Center, the Belmont Conference Center, the Anacostia Neighborhood Museum, the Cooper-Hewitt Museum in New York City, and the Silver Hill facility (which provides for the restoration and preservation activities of the National Air and Space Museum, and houses reference collections of aircraft, and other objects of science, technology, art, and natural history).

Services include the provision of utilities, and the servicing, repair, and operation of extensive refrigeration, heating, temperature and humidity control systems. Motor vehicle transportation and communications services are provided as well as improvements and alterations to the buildings and facilities. Custodial, engineering, architectural, construction management, space management, horticultural and other related services also are provided.

The FY 1974 requested program increase is \$597,000 to meet increased demands for services, price increases in various areas, and the needs associated with additional building space. In addition, \$119,000 is being sought for necessary pay increases of current employees.

Hirshhorn Museum and Sculpture Garden (28 positions; \$223,000)

The Hirshhorn Museum and Sculpture Garden is scheduled for initial occupancy in the early months of FY 1974 with a public opening scheduled for later in that year. In order to prepare the museum for occupancy and the public opening, Buildings Management will be required to provide extensive supporting services.

In addition to the 11 positions and \$98,000 appropriated in FY 1973, an increase of 28 positions will be required to provide the necessary operating staff for custodial, laboring services, and mechanical operation and maintenance on a 24-hour basis, seven days a week. Funds in the amount of \$223,000 are required for the additional staffing level of nine mechanics and 19 custodians and laborers. No funds are requested for other expenses due to the fact that the base funds available in FY 1973 to purchase equipment and fire detection systems can be applied in FY 1974 to obtain necessary supplies and equipment. This is a requested increase of \$223,000 for the operation and maintenance of this new museum facility.

Utilities and Communications (\$35,000)

The requested increase of \$35,000 for utilities and communications is needed to cover the rise in cost and consumption of electricity in existing buildings (\$25,000). Alteration and renovation programs now in progress will result in more air-conditioned space with resultant increases in utility, service, and maintenance costs. Based upon a recent rise in the installation and monthly service costs for telephones, and an increase in the cost of the Federal Telecommunication System intercity telephone services, an additional amount of \$10,000 is being requested to cover these anticipated increases.

Shortages in Custodial and Buildings Services (45 positions; \$339,000)

The present buildings services staff of 260 performs services that include cleaning operations in reference collection areas, offices, restrooms, workrooms, laboratories, and exhibit areas. In addition, services also include moves of furnishings, equipment, collections, transporting museum objects, operating 55 elevators, pest control measures, horticultural services, and general administration of space and office needs with regard to Institutional management requirements.

After thorough study and analysis of the conditions, problems, and work load statistics, a work management program has been developed. This program is based upon evaluation of work units, frequencies of services, productive man-hour statistics, and related factors.

Because the physical plant and other facilities of the Smithsonian Institution have expanded in size and numbers, 43 additional janitors and laborers are requested to bring the services in all buildings up to the acceptable standards as determined by building surveys (\$253,000). In addition, the Institution should employ a space analyst for administrative work as regards future planning and analysis for bureau needs, and an engineering assistant to oversee new construction and capital development (\$55,000).

Support funds of \$31,000 are also requested for necessary supplies, materials, and equipment for these new employees.

REQUESTED INCREASE IN FUNDS FOR FISCAL YEAR 1974

Dr. RIPLEY. Now, I have the budget highlights if you would like to hear from them, Mr. Chairman.

Senator BIBLE. Yes, I would. And you have a very, very substantial increase in a year when most people have been cut back, and you can comment on that as you go. I don't know where that big increase is but I think it is about a 30-percent increase over your fiscal year 1973 appropriations. Is that right?

Dr. RIPLEY. Yes, sir.

Senator BIBLE. And your total fiscal year 1974 request is \$99,173,000?

RELATION OF INCREASES TO MUSEUM EXPANSION

How much of your total operating budget is directly related to physical expansion of the Smithsonian; that is, how many dollars to staff and operate new facilities such as the Hirshhorn Museum?

Dr. RIPLEY. A major portion of our total operating budget is directly related to recent or planned expansion of authorized new physical facilities. The estimates include 37 positions and \$1,319,000 for the Hirshhorn Museum and Sculpture Garden staff, 40 positions and \$292,000 for protection services, and 39 positions and \$447,000 for building management activities for the Hirshhorn. This museum will open in the spring of 1974, but our staff will begin to occupy the building later this calendar year in order to prepare it for the public opening.

The National Air and Space Museum is requesting a total of 76 positions and \$1,852,000 to help them in the preparations for the new museum in order that research, collections restorations, and exhibits will be ready for the public opening in July 1976.

The Renwick Gallery of Art of the National Collection of Fine Arts, which has been open to the public for just a little over a year and has attracted about one quarter million visitors, requests a direct staff of 8 positions and \$275,000 plus 12 positions and \$150,000 for protection and 13 positions and \$198,000 for building services.

These new public facilities account for 8 percent of our total dollar request for fiscal year 1974. They do constitute a much higher percent of the requested budget increases because of the deadlines we are facing. Almost 30 percent of the requested increase of \$4,805,000 is associated with these facilities.

Senator BIBLE. Your actual 1973 level is \$75,422,000. Was any part of that money frozen?

Dr. RIPLEY. This is something Mr. Jameson might answer.

Mr. JAMESON. Mr. Chairman, none of our 1973 funds were frozen by the Executive Office.

Senator BIBLE. And none of them will lapse come this July 1?

Mr. JAMESON. No, sir.

Senator BIBLE. Are there any no-year funds? You won't be carrying anything forward?

Mr. JAMESON. We do have three appropriations which are no-year funds. They will not lapse. We have the appropriations for the special foreign currency program, the science information exchange, and the construction accounts, which are no-year moneys.

Senator BIBLE. That would be the Air Museum, among others?

Mr. JAMESON. Primarily; yes, sir.

FUNDING FOR THE AIR AND SPACE MUSEUM

Senator BIBLE. Do we fund the Air Museum in full at one time, or do you come in with an annual budget for the Air Museum? I have forgotten.

Dr. RIPLEY. In fiscal year 1973 we received an appropriation of \$13 million and an additional \$27 million in contract authority.

Senator BIBLE. All right. And what is the estimated total cost, \$40 million?

Dr. RIPLEY. Yes, sir.

Senator BIBLE. And you have received how much through fiscal year 1973?

Dr. RIPLEY. We have received \$13 million for construction plus \$1.9 million in fiscal year 1972 for planning.

Senator BIBLE. You are asking for how much for 1974?

Dr. RIPLEY. We should be asking for the remainder of the funds, that would be \$27 million, to make the \$40 million.

Senator BIBLE. Well, you should be asking for it—did you ask for it?

Dr. RIPLEY. We are asking for it in our budget figures here. Actually, we don't need it all to meet payments in fiscal year 1974, but we are asking for it.

Senator BIBLE. Well, if you receive it all, when will the building be complete? What is the construction time?

Dr. RIPLEY. The building is to be opened on July 4, 1976.

Senator BIBLE. July 4, 1976. A significant date.

Dr. RIPLEY. Which means that about a year before that date we will have received the building for the installation of exhibits.

Senator BIBLE. Does that \$40 million include furnishings?

Dr. RIPLEY. It does include an amount for furnishings but not for the preparation of exhibits.

COST OF FURNISHINGS AND EXHIBITS

Senator BIBLE. Do you have an estimate of what it would cost to furnish the building and make it completely operational?

Dr. RIPLEY. Yes, we do, sir.

Senator BIBLE. What is that figure? Maybe Mr. Collins can enlighten us on that.

Mr. COLLINS. Yes, Mr. Chairman, we estimate between now and the time the building is fully operational that it should take about an additional \$8 million to construct the necessary exhibits to completely fill the slightly over 200,000 square feet of exhibit space we will be offering.

Senator BIBLE. When will it be fully operational again, July 4, 1976?

Mr. COLLINS. Yes, Mr. Chairman.

Senator BIBLE. You will get into the building on what date again?

Mr. COLLINS. Our present construction schedule shows that we will begin to move in with our staff and start mounting our equipment for exhibits in July of 1975, which would give us then 1 year to prepare for a public opening in July of 1976.

Senator BIBLE. I see. You are right on target, then?

Mr. COLLINS. Yes, we are, Mr. Chairman, we are right on target provided the money keeps coming. We will have cashflow problems in fiscal 1974 unless we do receive a very large appropriation because in

last year's appropriation we were given \$13 million in cash and authority to write contracts for the additional \$27 million.

So, the General Services Administration is writing contracts, and during fiscal 1974, we are asking for the full \$27 million to liquidate the contract authority 100 percent. But, in fact, we will need at least \$17 million just to pay our bills in fiscal 1974, just to meet our cash-flow requirements.

Senator BIBLE. Have you signed contracts for the total of the \$40 million?

Mr. COLLINS. No, sir; not the total, but more than half the total.

Senator BIBLE. It is to date under contract?

Mr. COLLINS. That is correct, sir.

Senator BIBLE. All right. Yes, you may highlight your budget request, Dr. Ripley, if you will.

MAJOR AREAS OF INCREASED FUNDING

Dr. RIPLEY. Thank you, sir. Well, our principal budget increase falls into the construction part of our budget for the National Air and Space Museum, and that is what is making our budget increase seem rather large.

We also are asking for a special one-time increase of \$4 million to our foreign currency appropriation, which I will explain later on.

Actually, the salaries and expenses operating side of our budget increase is only about 9 percent on the fiscal year 1973 base. That is to say, we are asking for a \$4.8 million increase on the fiscal year 1973 base of \$51.6 million. Of this increase about one-sixth, or \$750,000, is to meet a portion of the anticipated cost of periodic step increases and wage pay raises required by law for currently authorized levels of employment.

SALARY INCREASES

Senator BIBLE. Do your 1974 estimates include the costs of the January Federal pay raise? What is the cost of that pay increase, and how will it be funded?

Dr. RIPLEY. The estimates for 1974 before the committee do not include any funds to pay for the January 7, 1973, general schedule pay increase. The cost of the pay raise in fiscal year 1974 is expected to be \$1,550,000. We hope that the Smithsonian Institution will be allowed to seek a supplemental appropriation in fiscal year 1974 to finance these increased costs.

Senator BIBLE. You list increased pay and benefits costs of more than \$1 million for 1973 and 1974, which you have reduced to \$750,000 by absorbing \$284,000. How did you absorb that amount?

Dr. RIPLEY. We hope to be able to absorb these pay costs through several actions. By careful timing of hires, we expect to obtain some savings. Also, without endangering a program, we expect to be able to defer purchases in other objects of expense and apply the savings to salaries and benefits. In addition, as a result of a positive equal opportunity effort we expect to identify some positions that will be filled by minorities and women at trainee levels. Savings are expected to result the first year but will not continue as these employees are promoted into the regular grade for the positions involved.

CURRENT AND REQUESTED EMPLOYMENT LEVELS

Senator BIBLE. What is your current authorized level of employment?

Dr. RIPLEY. 2,699.

Senator BIBLE. That is permanent employees?

Mr. BROOKS. Yes, sir, permanent full time.

Senator BIBLE. How many do you have aboard today?

Mr. BROOKS. Mr. Chairman, as of the end of February we had 2,377 on board.

Senator BIBLE. You are not up to your authorized strength. Why? Was that a cutback that you suffered?

Mr. BROOKS. We started the year, Mr. Chairman, at quite a low employment level. If you recall, there was an employment freeze last year.

Senator BIBLE. I knew there was last year. Are you still under an employment freeze?

Mr. BROOKS. No, sir; we have been trying to catch up this year. We started at a level of 2,187 on board as of June 30 last year; we have hired nearly 200 since that time and we anticipate reaching a level of 2,464 on board by the end of this fiscal year.

Senator BIBLE. Do you have money in your budget to take care of that?

Mr. BROOKS. Yes, sir, we do.

Senator BIBLE. That was built into your statement, that come July 1 you would not be carrying forward any funds, you would spend everything that is appropriated?

Dr. RIPLEY. That is right, in the salaries and expenses account.

Senator BIBLE. When will you get to your full strength of 2,699?

Mr. BROOKS. We would anticipate reaching it some time during the coming year, Mr. Chairman. In fact we are asking for an increase for 1974 so that we will be able to carry on some of the essential programs that Dr. Ripley has highlighted.

Senator BIBLE. Now, how many new positions are you asking for in 1974?

Dr. RIPLEY. 222 new positions, Mr. Chairman.

Senator BIBLE. That would be over the 2,699?

Dr. RIPLEY. Yes, sir.

Senator BIBLE. So, you take 2,699, add 222 to it, and you get?

Mr. BROOKS. 2,921.

Senator BIBLE. That is the level you are asking for support on today; is that right?

Dr. RIPLEY. That is right.

Senator BIBLE. But you won't get to that strength until some time later in this calendar year 1974?

Dr. RIPLEY. That is right.

Senator BIBLE. All right, you may proceed with the big items of your appropriations.

AMERICAN REVOLUTION BICENTENNIAL

Dr. RIPLEY. Our essential request for new persons for this year is tied to phasing in the two new buildings which will be opening before the next 3 years are over and we have arrived at the Bicentennial.

These two buildings are the National Air and Space Museum and the Hirshhorn Museum which we will be receiving from the contractor during the latter part of this very year.

So, in order to prepare ourselves for opening these buildings to the public, we have quite specifically itemized the numbers of persons and funds that we need to prepare for those buildings. The Bicentennial program for the Smithsonian is essentially revolving around the opening of these buildings and major other programs planned within our current buildings and across the country. An increase of 91 positions and \$1,308,000 is for the various needs of the two new museums.

As you know, Mr. Chairman, we have been attempting to phase into this vastly increased visitation which we anticipate in Washington over the next 3 or 4 years so as to be ready to receive the multitudes when they come.

In this connection then, we are also asking for an increase of a million dollars for the special Bicentennial program effort of \$1,754,000, to continue the preparation of exhibits, scholarly projects, and national outreach activities which we have already begun.

Eventually these funds would go out of our base once the Bicentennial is over, but the benefits in the form of exhibits and new outreach activities will remain.

BICENTENNIAL FUNDING

Senator BIBLE. How much of your total budget is directed to Bicentennial activities?

Mr. BLITZER. In addition to the \$1,754,000 being requested in fiscal year 1974 specifically for special Bicentennial projects, the Smithsonian Institution has been and will continue to invest tremendous amounts of its own talent and resources in the Bicentennial. It has been our intention from the beginning that many of our regular, ongoing programs would be focused on and relevant to the celebration of our Nation's 200th anniversary.

For example, there are a number of special exhibits not supported by Bicentennial funds which are being prepared for 1976. These include such exhibits as our new Hall of Maritime Enterprise and our exhibit on the American political experience in the National Museum of History and Technology; the arts of Asia exhibit on Chinese, Japanese, and Near Eastern art of the period of the Revolution in the Freer Gallery of Art; and a full range of exhibits at the National Portrait Gallery including self-portraits of American artists; Freedom: The history of dissent in America, life portraits of George Washington, and the history of the black in America. All of our museums will have additional exhibits supporting their major Bicentennial exhibits. None of these exhibits are supported by any special Bicentennial funds.

Under scholarly projects, you will note that the catalog of American portraits, which was for 2 years supported by Bicentennial funds, is no longer requesting money from Bicentennial funds. It was dropped because of the major cutback in Smithsonian Bicentennial funds in fiscal year 1973. This major research project which eventually will contain photographs and documentation on thousands of American portraits, including biographical material on the individuals portrayed, is now being supported entirely by the National Portrait Gallery as part of its regular program. The research activity has been curtailed

by lack of funds, and the major effort now and over the next several years is in research on the Revolutionary period in order to produce the four major Bicentennial exhibits planned by the Portrait Gallery.

The Anacostia Exhibits Design and Production Laboratory is only partially supported by Bicentennial funding. A major part of the realization of this project will be the result of anticipated funding from a private foundation. In terms of the Bicentennial, a series of exhibits by and on minority peoples will be produced.

The Encyclopedia of North American Indians is a project which has been in the works at the Smithsonian for some 10 years now as part of the regular operation of the Center for the Study of Man. All of the research, writing, editing, and production has been supported by funding provided to the Center. Bicentennial funds are being requested only to enable the printing of the 20-volume encyclopedia.

Finally, I would like to stress that we are working with a number of other institutions, organizations, and Federal agencies in cooperative ventures which will prevent duplication of programs and result in the greatest possible return on every dollar invested. We are also exploring a variety of ways of encouraging private resources for additional funds to support various of our national Bicentennial programs.

Senator BIBLE. The Smithsonian's Bicentennial program is in the budget for a \$1 million increase—a total of \$1.7 million. You were cut back on a similar request last year?

Dr. RIPLEY. Yes, our request last year was cut by approximately one-fourth, from \$1 million to \$754,000.

Senator BIBLE. Last year you supplied a total estimate of \$9 million for Bicentennial activities through 1978. Is that still your projection?

Mr. BLITZER. Yes, this is still our projection for the special Bicentennial budget through 1978.

ASPECTS OF BICENTENNIAL PROGRAM

I would like to add that this marks the fourth time we have come before you to request a special Bicentennial appropriation. With your support over the past 3 years, we have developed and have begun to carry out a Bicentennial program—the American Experience—worthy of the institution and of the occasion. There are a few aspects of the program that I should mention before turning to details.

First, it is in every sense a national program. Even the exhibits and activities planned for Washington will be enjoyed by millions of Americans from every part of the country and, according to some estimates, by as many as 5 million visitors from abroad. In addition, we have developed plans and prototypes for a great variety of traveling exhibitions, which may well reach an even larger number of people.

Second, our Bicentennial program is very much a Smithsonian program, building upon our collections and our human resources by doing only the things that we are best equipped to do. Partly for this reason, we have actively sought to cooperate with appropriate Government agencies and with other institutions to bring to the program resources and abilities that we may lack, and also of course, to avoid duplication or competition.

Third, we believe our Bicentennial program is an extraordinarily well balanced program. It includes both exhibits designed for all the people and research publications designed for scholars; it embraces history, the arts and science in seeking to illuminate the meaning of America on its 200th birthday; it will produce temporary exhibits and performances as well as lasting structures and publications.

Fourth, we believe that our Bicentennial program speaks directly to many of the questions that most concern people at this moment in our history: To the question of ethnic diversity—Nation of Nations, Folk Festival, Encyclopedia, Anacostia Exhibits Laboratory—to the question of environment, both rural and urban—Ecology 200, Design in the City—and, perhaps above all, to the question of American achievement: National Air and Space Museum, National Collection of Fine Arts survey and exhibit, National Portrait Gallery and Museum of History and Technology exhibits, 1876.

Fifth, I should point out that the special Bicentennial appropriation we are requesting is temporary in nature. The funds we receive are used only for special Bicentennial purposes, and will not be part of our base appropriation when the Bicentennial era is over.

Finally, I would like to emphasize that the next year is in a real sense the pivotal one in the realization of our Bicentennial program. With your support, we have been working on the program intensively for 3 years.

Our request for fiscal year 1974 is devoted almost solely to funds needed to carry on work we have already begun, work which in many cases is quite far advanced, thanks to the \$1.5 million you have appropriated during the last 3 years. The \$1.75 million we are requesting for fiscal year 1974 are needed if we are to meet the immovable deadline of 1976.

OPENING OF HIRSHHORN MUSEUM

Dr. RIPLEY. We anticipate opening the Hirshhorn Museum in the spring of 1974, if possible depending on when we actually receive the building itself.

Senator BIBLE. Is Hirshhorn on target?

Dr. RIPLEY. It continues to be somewhat slow due to conditions which seem to be beyond our control, Mr. Chairman.

Senator BIBLE. Now, what is your anticipated date for getting into the Hirshhorn Museum and Sculpture Garden. You say the spring of 1974? That is a year from now?

Dr. RIPLEY. That would be a year from May of this year, yes. We are not sure that we can hold to that date because it depends on when the General Services Administration and the contractor hand this over for occupancy, but we anticipate the building will be topped out within the next couple of months. The little, but important, details of finishing may take it well into the summer, so we have no real way of estimating exactly when we will get that beneficial occupancy.

Senator BIBLE. You are requesting a total of \$1,319,000 for the Hirshhorn, including 14 new positions in 1974. What do you anticipate will be your needs in fiscal year 1975?

Mr. BLITZER. In fiscal year 1975 the Hirshhorn Museum expects to request 15 new positions, but not any additional dollars. The funds for the positions will come from the moneys being spent in fiscal year 1974 for furnishings.

Senator BIBLE. On page 28 of your justifications, you state essential furnishings and equipment for the Hirshhorn have been funded from reduced staff savings. What is the dollar amount involved in the savings and purchases?

Mr. BLITZER. In fiscal year 1972, an amount of \$160,000 was spent on furnishings and equipping the museum. About \$14,000 of this was

from staff cost savings; the balance was from savings resulting from the decline in restoration and conservation expenditures.

Senator BIBLE. Is your total furnishing and equipping cost still \$1,400,000 as indicated last year?

Mr. BLITZER. Yes; it is still \$1,400,000.

Senator BIBLE. Where do you keep the sculptures and the works of art that will go into the Hirshhorn Museum? Are they in New York City?

Dr. RIPLEY. A great deal of the collection is still in New York City and a great deal of it is still in Connecticut.

Senator BIBLE. All right. You may proceed.

CORRECTION OF OPERATIONAL SUPPORT DEFICIENCIES

Dr. RIPLEY. We are seeking an additional \$1,202,000 and 88 new positions for a limited extension of a phased program to correct operational support deficiencies.

This is one of the areas where I feel it is most important for us to make up for chronic deficiencies that mount up over the years in conservation, preservation of the collections, and availability of these collections for study by scholars.

CONSERVATION ANALYTICAL LABORATORY

Senator BIBLE. You propose a substantial increase in personnel for your conservation laboratory—from 14 to 19 positions. Why does this program require such an acceleration at this particular time?

Mr. PERROT. The five additional persons and \$100,000 program increase that are requested for fiscal year 1974 are two conservators, two analytical chemists, and an assistant. They will enable the Smithsonian to tackle the more urgently needed conservation tasks and prepare for a hopefully more affluent future.

As will be noted, an amount has been set aside in capital expenditures for physical expansion of the Conservation Analytical Laboratory. At the present time it is crowded to the point that needed equipment cannot be used with full efficiency. Space is available in the National Museum of History and Technology and has been allotted for this purpose.

With additional personnel and space, the Conservation Analytical Laboratory will be able to meet its urgent challenge with some prospects of success. The irreplaceable and incalculable value of our trust cannot permit less.

It is a truism that every material ages and that age brings disintegration. During the last millennia the external factors accelerating this process of decay have been virtually entirely natural in their causes. But over the last century and a half, man has contributed and accelerated this process with the pollution of his increasing urban and industrial society. As a result, objects which under different conditions could have remained sound for decades, or even centuries, are now crumbling before our eyes.

The figures compiled by the Conservation Analytical Laboratory suggest that, merely to keep up with the normal additions to the Smithsonian collections 32 man-years are annually needed. This, in addition to the conservation that needs to be done on collections that

have been accumulated within the present national museums and their predecessors for 125 years. Furthermore, conservation is only part of the story. In many cases, fundamental research has to be done on the properties of materials, new techniques must be experimented with and, particularly, new substances used for conservation or repair must be carefully tested to make sure that they will not, now or in the foreseeable future, react adversely with the materials that they are intended to consolidate, or behave towards the objects in a fashion comparable to the pollutants in the air.

The Conservation Analytical Laboratory foresees the need of a staff of, at minimum, between 40 and 50 persons to take care adequately of the needs of the Smithsonian Institution and be responsive, as well, to the increased demands made upon the Institution for technical advice. Furthermore, there is an additional responsibility with which the Conservation Analytical Laboratory must be concerned, and that is teaching.

In addition, our research effort in science, history, and art is the very important basic work out of which come publications, exhibitions, and education programs of great relevance and practical applicability. Our public exhibits and the reputation of the Smithsonian depend on our research. We do have a reputation for being a scholarly resource and a court of last resort, so to speak, for information on objects and history across the country. And, unless we can make sure that our laboratories are properly staffed and information retrieval techniques properly developed, we cannot really answer the questions and maintain this kind of reputation.

MUSEUM OF NATURAL HISTORY

Dr. RIPLEY. Our 1974 budget contains a request for \$360,000 and 13 new jobs for the National Museum of Natural History, the Astrophysical Observatory, the Chesapeake Bay Center for Environmental Studies, and the Center for the Study of Man.

Senator BIBLE. For your staff increase of five positions in the National Museum of Natural History, you rely on support ratios recommended by the Office of Science and Technology. What were the recommendations?

Dr. CHALLINOR. In 1969, the President's Science Advisory Committee and also the Panel on Systematics and Taxonomy recommended a ratio of three support personnel—technical and clerical—to each professional employee at the optimum level for research endeavors.

Senator BIBLE. What type of additional technical assistance is being sought with that increase?

Dr. CHALLINOR. Five new positions requested would be for additional Museum Technicians at the grades GS-5 and GS-7 levels to further improve the ratio of support personnel to professional staff.

Senator BIBLE. Last year you requested a \$580,000 increase for a physical sciences laboratory in the Natural History Museum. What is the status of that project?

Dr. CHALLINOR. The total requested increase for the museum, for all needs, was \$580,000. Of that amount, \$50,000 was for a physical sciences laboratory. The \$50,000 provided in 1973, together with other funds, will be used for the purchase of an electroscanning microprobe quantometer for the elemental analysis of geological and extraterres-

trial material. Additional components including an on-line computer to increase the efficiency and enlarge the capacity of the equipment, will be added in subsequent years.

Senator BIBLE. Senator Symington has contacted me about the Smithsonian's participation in the Flora North America project. What did you contribute in the current fiscal year? Is there anything in your 1974 estimates to continue this effort?

Dr. CHALLINOR. In the current fiscal year \$60,000 was contributed. No funds were included in the President's budget for fiscal year 1974 for the Flora North America project.

Senator BIBLE. What is the projected cost to the Smithsonian of this project?

Dr. CHALLINOR. In addition to the level of support provided in 1973 the increased cost for 1974 was estimated to be \$200,000. The funds estimated to be required for subsequent fiscal years are \$392,000 in fiscal year 1975, \$770,000 in fiscal year 1976, and \$822,000 in fiscal year 1977.

Senator BIBLE. Where is the Chesapeake Bay Center for Environmental Studies located? You testified before, but I have forgotten.

Dr. RIPLEY. It is on the western shore of Chesapeake Bay, around the estuary of what is called the Rhode River, about 9 miles south of Annapolis.

CENTER FOR THE STUDY OF MAN

Senator BIBLE. Now, where is the Center for the Study of Man?

Dr. RIPLEY. That is in the Museum of Natural History.

Senator BIBLE. Right here on Constitution Avenue?

Dr. RIPLEY. Yes, right on the Mall, at Constitution and 10th Street.

Senator BIBLE. An increase of \$70,000 and three new positions for the Center for the Study of Man are mainly for enlarging your immigrant and ethnic studies program. Is that correct? How has this study been financed previously?

Dr. CHALLINOR. Yes; to continue the program. The immigrant and ethnic studies program has been financed by a grant from National Institute of Mental Health to Dr. Roy Bryce-Laporte. This program has a high priority because of the Smithsonian's increasing concern with the role of man in the environment, but more especially because the focus of this research will be in Panama where we have been operating our research station for the past 26 years. We have learned that you cannot work on the environment without man and we are asking for these funds to combine the resources of two Smithsonian research entities.

Senator BIBLE. All right. You may proceed.

CARE OF COLLECTIONS

Dr. RIPLEY. I have mentioned the need for documentation and care of the collections. It is this general area that we are focusing on support funds. We need \$330,000 and 13 new positions in general, for this area, and we need \$512,000 and 62 new jobs for maintenance, operation, and protection of buildings.

As I have mentioned before, the increased visitation, the rising prices, and the threats to public safety, and an essential need to give

more adequate preventive maintenance and custodial care to a valuable physical plant make this funding of extreme importance for us.

HOURS OPEN TO THE PUBLIC

Senator BIBLE. How many hours per day do you keep your various Smithsonian museums and institutions open? What are your hours again, for the record?

Mr. BROOKS. At present, Mr. Chairman, our opening hours for all museums are from 10 in the morning until 5:30 at night. Beginning the 1st of April, however, we extend our hours for the summer season until Labor Day from 10 in the morning until 9 at night for four of the major museums on the Mall. That is, the National Museum of Natural History, the National Museum of History and Technology, the temporary National Air and Space Museum building, and the Arts and Industries Building will stay open longer hours in the summer.

Senator BIBLE. Sundays?

Mr. BROOKS. Yes; they are open every day of the year except Christmas.

Senator BIBLE. The variation of winter hours and summer hours applies to the museums as well?

Dr. RIPLEY. Yes, the major museums on the Mall.

Senator BIBLE. You keep them open Sunday evening until 9 o'clock?

Dr. RIPLEY. Yes, sir.

Senator BIBLE. All right.

Dr. RIPLEY. That is through Labor Day.

SUMMER AND WINTER VISITORS BY MONTHS

Senator BIBLE. I understand. Do you have any breakdown in your summer visitors and your winter visitors?

Dr. RIPLEY. Yes, we do; we have breakdowns by months.

Senator BIBLE. Would you supply that for the record.

[The information follows:]

VISITOR COUNT BY BUILDING FISCAL 1972

Months	Smithsonian Institution	Arts & Industries	Air & Space	Freer	Renwick	FAPG	History & Technology	Natural History	Total Mall	Zoo	Total SI
July 1971	113,353	282,174	213,316	26,286		24,663	991,398	384,348	2,035,538	670,555	2,706,093
August 1971	109,696	333,831	239,506	28,955		18,224	884,735	405,419	2,020,366	638,100	2,658,466
September 1971	44,222	128,100	88,981	14,544		18,186	335,171	175,862	805,066	260,022	1,065,088
October 1971	57,681	133,853	87,830	19,232		25,241	415,308	202,686	941,831	303,084	1,244,915
November 1971	54,729	122,781	72,490	13,703		22,819	354,048	234,469	875,039	300,342	1,175,381
December 1971	25,011	73,946	32,817	13,029		17,931	269,092	140,230	572,056	82,825	654,881
January 1972	35,655	77,601	46,906	12,725		11,814 ^{2/}	277,121	152,484	634,797	80,354	715,151
February 1972	27,753	82,438	66,397	13,226		16,270	299,451	169,270	704,381	169,223	873,604
March 1972	61,176	164,939	114,270	22,627		20,071	498,257	282,872	1,185,736	448,621	1,634,357
April 1972	107,093	367,519	141,638	25,032		20,364	978,728	496,320	2,153,370	909,363	3,062,733
May 1972	90,673	278,055	Closed ^{1/}	19,479		24,063	765,504	407,147	1,597,773	1,160,138	2,757,911
June 1972	92,629	260,834	Closed ^{1/}	21,637		18,334	739,713	363,533	1,509,424	652,187	2,161,611
Total	819,671	2,306,071	1,104,151	230,475	105,186	246,657	6,808,526	3,414,640	15,035,377	5,674,814	20,710,191

1/ Closed due to construction of Planetarium

2/ Building opened in January 1972

VISITORS DURING EVENING HOURS

Senator BIBLE. Do you further break it down to show how many people visit the Smithsonian during the summer months up through Labor Day after 5 in the evening, between 5 and 9?

Dr. RIPLEY. We have done this, I am not sure that we do it regularly.

Senator BIBLE. I don't know that you should.

Dr. RIPLEY. We have studied it in order to try to determine the peak visitation, and how it sort of tails off during the evening hours.

For example, we first thought that we could keep the buildings open as late as 9:30 and then we found that between 9 and 9:30 there was a significant drop and it hardly seemed worthwhile to do it, based on the cost of doing so. So, that is why the 9 o'clock closing hour is an alternative. I would like to supply for the record a breakdown of attendance during the evening hours.

[The information follows:]

VISITOR COUNT NIGHT OPENINGS CALENDAR YEAR 1972

FROM 5:00 p. m. TO 9:00 p. m.

	<u>Arts & Industries</u>	<u>History & Technology</u>	<u>Natural History</u>	<u>Total</u>
April 1972	24, 818	81, 065	27, 036	132, 919
May 1972	20, 752	74, 536	22, 861	118, 149
June 1972	20, 834	65, 624	33, 386	119, 844
July 1972	34, 126	96, 158	44, 743	175, 027
August 1972	37, 950	85, 789	39, 867	163, 606
September 4, 1972	<u>4, 247</u>	<u>12, 467</u>	<u>4, 950</u>	<u>21, 664</u>
Total	142, 727	415, 639	172, 843	731, 209

PROTECTION OF THE BUILDINGS

Senator BIBLE. How about your protection of the buildings? Since you talked to us last, have you successfully protected against vandalism?

Dr. RIPLEY. We have been doing the best we could and we believe it has improved. Mr. Ault might like to answer that.

Mr. AULT. Sir, we are doing our best to protect them. There is a definite trend upward in incidents in museums throughout the country, and we, too, have experienced it.

Senator BIBLE. Now, on your request for 46 new guard positions, I realized some of it is related to the new facilities. But it would seem some is for a strengthening of the existing guard force. Are you experiencing any upsurge in vandalism and other related problems?

Mr. AULT. Mr. Chairman, of the 46 new guard positions requested, 29 are for the new Hirshhorn Building which we expect will open to the public in spring 1974. The remaining 17 positions are for eight exhibit halls totaling 68,200 square feet in area, a quarter of which is considered high value exhibit space, and for an additional guard on two major museum entrances, and for an outside security patrol during the evening and night hours.

For the first 8 months in fiscal year 1973, we have had in Smithsonian buildings 159 crimes, including vandalism, a 47-percent increase over the corresponding period in fiscal year 1972. This is slightly less than the 50-percent increase which is the estimated national museum average. More significantly, this latter figure is based entirely on major losses whereas our increase was confined to comparatively minor losses. It is only reasonable to conclude that without the increase granted in fiscal year 1973, our losses would have been much greater. The trend, however, does seem to be upward and we would be negligent, we believe, if we did not request the staff to protect buildings, collections, staff, and visitors.

NATURE OF INCIDENTS

Senator BIBLE. What kind of incidents? Defacing works of art, attempting to steal?

Mr. AULT. Vandalism accounts for about 16 percent of the incidents that we experienced last year.

Senator BIBLE. How many instances of vandalism did you have last year?

Mr. AULT. I will supply that for the record, if I may.

[The information follows:]

VANDALISM INCIDENTS

In fiscal year we had a total of 32 incidents of vandalism, or 15.4 percent of our total crimes. They consisted of damage to 19 paintings, 2 statues, 8 pieces of equipment, and 3 involved defacing of public facilities.

In the first 8 months of fiscal year 1973 we had 22 such incidents or 13.8 percent of our total crimes, with damage to 11 paintings, 1 statue, 3 lesser artifacts (gunboat model, aquarium, mounted grizzly bear), 3 pieces of equipment, and 4 involved defacing of public facilities.

None of the acts involved complete destruction. However, each exhibit piece has to be removed, many for extended periods of time. It is impossible to place a dollar value on these incidents as each such act, in addition to the restoration cost, lessens the life and exhibit value of the damaged item.

NUMBER OF INCIDENTS IN FISCAL YEAR

Senator BIBLE. It can be supplied for the record, but give me a rough idea of how many special individual incidents of vandalism you suffered at the Smithsonian.

Mr. AULT. We had 32 instances of vandalism to Government property.

Senator BIBLE. Thirty-two?

Mr. AULT. Yes, sir.

Senator BIBLE. In what period of time?

Mr. AULT. That is over the period of the past year, 1972.

Senator BIBLE. On the calendar year basis?

Mr. AULT. No. pardon me; that is fiscal.

Senator BIBLE. That is fiscal 1972? All right.

How about thefts? How much have you lost in the Smithsonian?

Mr. AULT. We had 114 cases of larceny in fiscal 1972.

Senator BIBLE. What do they steal? I guess they steal everything except the building.

Mr. AULT. It is across the board, sir. This includes, of course, thefts of both Government and private property, and from both public and nonpublic areas; tape recorders, typewriters, very few objects of art or collection items. For the most part they are noncollection type of things.

Senator BIBLE. How many were you successful in apprehending and bringing to trial and securing a conviction? Do you follow them through?

Mr. AULT. Yes, we do, sir. Of course, we don't have followthrough authority. The cases would have to be tried in the courts.

Senator BIBLE. I understand that, but do you just follow from your position to look and see what happened to John Robber when he comes in and steals a work of art? Do you see whether he got convicted or acquitted, or sentenced, or what disposition was made of the case?

Mr. AULT. We do indeed, sir. As I say, the majority of the cases did not involve thefts of works of art.

DISPOSITION OF THEFT CASES

Senator BIBLE. Well, whatever the kind of a theft, what was the ultimate disposition of the numbers that you mentioned?

Mr. AULT. I don't have the actual recovery figures, sir. I can supply it for the record.

Senator BIBLE. Supply it for the record.

[The information follows:]

CRIME FOLLOWTHROUGH

All incidents are followed through on a continuing basis as long as there is any possibility of a successful conclusion. Losses of all causes are disseminated to each guard company for assistance in search. In addition:

Thefts of \$100 or more are referred to the FBI for assistance.

Thefts of property and personal crimes are referred to either or both the Metropolitan and U.S. Park Police who fully cooperate and assist as necessary.

Identifiable stolen property is entered in the National Crime Information Center computer. It is also disseminated to other agencies and associations when within their interest.

Recoveries have been extremely low. This is due, we believe, to most stolen items being concealed and leaving the building by public entrances which are normally heavily trafficked. Also the items taken are easily resalable and seldom get into police hands.

PROTECTION SERVICES

Senator BIBLE. Senator Stevens.

Senator STEVENS. I noticed that on your protection services, in the last budget we increased by 41 the number of positions for the protection services. And you are seeking, if I understand it, 46 new ones in that area again this year. And yet, with the addition of the 41, if I understand your presentation, the felonious instances increased by 100 percent. Notwithstanding an increase of 41 last year, what makes you think that just more guards will prevent any additional incidents this year?

Mr. AULT. We can only hope that the more guards we have, sir, the better the opportunity we have to prevent thefts and crimes in our institution.

Senator STEVENS. That is the point—it didn't last year. Have you checked your security procedures? I am not sure that just having more guards standing around is going to prevent the incidents.

Mr. AULT. We have, sir. We have not only checked our procedures, we have recently completed a 5-month study on protection. Among other outcomes that resulted, is a reorganization and identification of protection services as a separate and distinct item in the budget this year, in recognition of its importance and in an effort to give it separate identity and separate visibility.

Senator STEVENS. I am just not really convinced. We added 40 last year and the incidents doubled; if you add 46 more this year, I am not convinced it is going to do anything more than double again.

Dr. RIPLEY. Well, may I—

Mr. AULT. The majority of the requested increase in protection personnel is for the Hirshhorn Museum, Senator.

Senator STEVENS. The majority of the new 46?

Mr. AULT. The Hirshhorn Museum, which opens in the spring, accounts for 29 of those 46 alone. So, the makeup that we are hoping for is only 13 positions for protection for the new halls, as the Secretary outlined, that have already opened, or those that are about to open, plus a makeup of only four other positions on entrances and outside posts.

Senator STEVENS. Thank you very much.

Senator BIBLE. Again, part of your increase for buildings management is related to new facilities. But I note 45 of the 73 new positions requested are to alleviate janitorial deficiencies. What happened to create the need for such a major expansion? You weren't doing a proper job previously?

Mr. AULT. Our requirements for custodial personnel and laborers are directly related to the increasing numbers of visitors and the area of building space in which our collections and exhibits are housed. We determine the numbers of janitors and laborers required by definitive standards initially adapted from those used by GSA, which have proved to be quite accurate over a period of many years. We believe it is imperative for us to offer to our public and our staff clean, well-maintained buildings in which to visit and to work. The requested additional custodial and building services personnel are needed to bring these services up to meet acceptable standards in the face of a steadily rising workload.

Senator BIBLE. Thank you. I have no further questions on this particular point. Dr. Ripley, you may proceed.

GENERAL EXHIBITION, EDUCATION, AND OUTREACH PROGRAMS

Dr. RIPLEY. In our final category, we have additional funding for outreach and national services, general exhibition, and education. We are requesting \$776,000 and 27 positions for these purposes. These are the programs where we get the most impact on the rapidly rising numbers of visitors to the museums, galleries, zoo, and to the museum public in general.

It is difficult not to fall behind when these growing demands come on you, as they do, and we try to foresee the kinds of visitation and the kinds of demands we are going to get as much in advance as we possibly can.

As I pointed out just this past year, the Renwick Gallery, which is rather a small and choice gallery, on the corner of Pennsylvania Avenue and 17th Street, had well over 200,000 visitors. But this budget request also includes our school tour and education program in our other museums and galleries, which is facing rising public demands.

This past year the students served by school tours for example, have gone up to over 75,000. All of these have to be scheduled and attended to by trained persons.

And this category also includes additional funding for outreach programs like the Anacostia Neighborhood Museum, especially its exhibits training and production laboratory for inner-city minority group people; the Folklife Festival on the Mall, which annually attracts over half a million persons; the Smithsonian Traveling Exhibition Service, which this past year reached 4 million persons; the National Museum Act activities, which are inundated each year with requests that we cannot service; and the research report and exhibits catalog publication program of the Smithsonian Press.

Much of this effort, of course, is of direct benefit to those persons who cannot or do not visit our major museums or other buildings in Washington.

Senator BIBLE. How many people do you use in your outreach activities?

Dr. RIPLEY. I would have to pull that figure together for you, sir, for the record.

Senator BIBLE. Do you have a rough idea? They can be supplied for the record, but I mean were you talking about 10 people, or 20, or 30, or 40?

Mr. BROOKS. Mr. Chairman, if you take all of our public service activities, which include of course local outreach as well as national outreach, under the jurisdiction of the Acting Assistant Secretary for Public Service, Mr. Euell, that comprises 89 people on the Federal side of our operation this year.

PUBLIC SERVICE

Senator BIBLE. Two new positions are requested for the Assistant Secretary for Public Service. Were you cut back by Congress in this activity last year?

Mr. EUELL. No. Last year the Office of the Assistant Secretary for Public Service was not a separate entity in our request, but a part of the Office of the Secretary. We did not request any increase in last year's estimate for the Assistant Secretary for Public Service.

Each of the requested positions for the Office of Public Service originates with this hearing for fiscal year 1974. As the membership and content of the programs that come under this office increase, the resulting correspondence greatly increases so that additional clerical support is necessary. In addition to our staff of five, we have three consultants who require secretarial services, and in the past we have had but one secretary.

As we continue to develop our national outreach program, using the Washington community as our laboratory, we feel the need more and more to develop in-house ability to take advantage of the natural audience provided by video technology—whether it be the general television audience or the more specialized video cassette and filmstrip audiences. We envision that a special assistant for video programs can develop an orientation program for the students coming to our museums, which in turn, could be distributed to other nationwide schools.

DIVISION OF PERFORMING ARTS

Senator BIBLE. Your requested increase for the performing arts division is Bicentennial related, is that right? Will you be cutting back on the spending after the Bicentennial?

Mr. EUELL. The requested increase for the Division of Performing Arts is Bicentennial related in that this year's festival and subsequent ones will incorporate and test the major themes of the Bicentennial: Old Ways in the New World, the Native Americans; Working America, and a Regional View of American Life. The length of the festival this year will be 10 to 14 days, and, therefore, all the costs for supplies, housing, honoraria, et cetera are increased. The position requested, however, of a technical assistant is one that the Division has needed for some years. We have managed with the expertise of the Deputy Director of the Division, who has an extensive background in technical productions, but with the increased activity of both the festival and the Division's other productions, he cannot be expected to "double in brass" any longer since his administrative functions are required in other areas.

After the Bicentennial we expect that the Division of Performing Arts will return to its usual format of folklife festivals. It is difficult at this time to project costs 4 years hence.

ANACOSTIA NEIGHBORHOOD MUSEUM

Senator BIBLE. Last year, as I recall, you estimated the Anacostia Neighborhood Museum would settle down on a budget of about \$200,000 a year. Now you are asking for \$302,000 including three new positions. What is the situation?

Mr. EUELL. With the completion of the Exhibits and Production Laboratory, the Anacostia Neighborhood Museum will reach a major turning point. The museum has become in its 6-year history a successful community museum which has served as a model for the establishment of other community museums across the country. The Exhibits Lab, with its focus on production of Bicentennial exhibits and training of minority people, will take the concepts of the museum one step further into the community on a very functional level. The additional funds requested for fiscal year 1974 are almost entirely for this new thrust

for the museum, with the exception of a clerk-typist position for the education department. The increase from \$267,000 last year, to a requested \$302,000 is an indication that the Anacostia Neighborhood Museum continues to respond to the needs of the community.

Senator BIBLE. What is your availability of private funding for the Anacostia Museum?

Mr. EUELL. The Smithsonian will provide \$23,000 to the Anacostia Neighborhood Museum in private funds this fiscal year 1973. And we have a proposal in to a major foundation for \$1 million over 5-years for the Exhibits and Production Laboratory. We expect to hear conclusively by the end of March.

MUSEUM OF HISTORY AND TECHNOLOGY

Senator BIBLE. You are asking for \$100,000 to develop a computerized inventory of collections in the History and Technology Museum. Do you still project this is a 10-year program? How much has already been spent?

Mr. BLITZER. The major collections management efforts and funding will continue at least 10 years and will then continue forever at a much reduced cost.

This year, fiscal year 1973, marked the beginning of this museum's new collections management and inventory program. As of now we have spent a total of \$23,000. We expect to spend an additional \$20,000 during the balance of fiscal year 1973.

RENWICK GALLERY OF ART

Senator BIBLE. You are now asking for two curator positions for the Renwick Gallery under the National Collection of Fine Arts. Do you plan to make the gallery a separate entity?

Mr. BLITZER. Certainly not. One curator is to bolster our over-worked exhibition staff and the other to extend the education operation to the Renwick. The Renwick could not conceivably function as a separate entity with anything like its present staff. Furthermore, although somewhat removed from the other galleries of the NCFA, the Renwick contains exhibits of American craft and design which are integral to NCFA's presentation of American art.

ARCHIVES OF AMERICAN ART

Senator BIBLE. How will you staff your western regional office for the Archives of American Art, for which you are asking \$30,000. Is it part-time employment, or do you have private support? What is there now?

Mr. BLITZER. The western regional office for the Archives of American Art currently occupies rent-free space in the De Young Museum in San Francisco. We currently have a part-time secretary working at this office paid from private funds. The part-time secretary will continue to be paid from private funds, while the director, a full-time employee would be paid from appropriated funds.

Only \$20,000 of the requested increase of \$30,000 is for the western office. An amount of \$5,000 is for microfilming additional archival material at other offices, and \$5,000 is for a program in oral history.

PROGRAM DECREASES

Senator BIBLE. I note you have actual decreases in at least two programs, environmental sciences and major exhibitions. Were these voluntary, or suggested by OMB?

Mr. BROOKS. In any budget year, it is necessary to choose among programs that are competing for resources. This may mean holding certain activities level, except for pay inflation, and cutting other activities. Our fiscal year 1974 budget request has identified a number of ongoing high priority public programs, such as the Air and Space Museum, the Bicentennial, and the Hirshhorn Museum. In addition, we wish to emphasize such national service activities as the Museum Act and the Smithsonian Traveling Exhibition Service. In order to do these things we found it necessary to propose these two reductions which we deemed to have a lower relative priority.

With regard to the environmental sciences program, this activity was established about 3 years ago to establish and encourage interdisciplinary work by several of our science bureaus and offices. Specifically, studies have been set up to monitor rates of biological and physical change and to analyze these data for insights into the prediction of environmental change. This work can continue in fiscal year 1974 although at a reduced level of effort, \$175,000.

The purpose of the major exhibition program, as presented to the Congress, is to have a steady, phased effort to revitalize the permanent exhibit program by producing highly significant presentations on new and relevant knowledge in the fields of science, technology, and history. We envision such a major new permanent exhibition opening every 12 to 24 months depending on its size and complexity. With funds provided in fiscal year 1972 and 1973, we will open in about July 1973 "It all Depends," an exhibit on environmental awareness, and in about July 1974 "Of the People, By the People, For the People," a major presentation on American Government. The funds requested for fiscal year 1974, \$319,000, will permit a good start on "Benefits of Flight," an exposition of the many applications on earth of the knowledge gained in the course of developing air and space flight, and planning funds for subsequent major exhibits. "Benefits of Flight" would be completed in late fiscal year 1975. In summary, the fiscal year 1974 budget reduction will not cripple our ability to produce major new exhibits on a phased basis.

SMITHSONIAN TRAVELING EXHIBITION SERVICE

Senator BIBLE. The Traveling Exhibition Service, which I gather has been self-supporting, is now coming forward for \$80,000 Federal dollars. How much of an increase in service is planned to justify this request?

Mr. PERROT. The Smithsonian Traveling Exhibition Service has not been profitmaking. It has kept its expenses down to the minimum, and it has charged the minimum commensurate with attaining a near break-even condition.

The demands are constantly increasing, as reflected by the inquiries received at the Smithsonian Institution Traveling Exhibition Service's office. To meet them and to keep up with rising costs, there are two alternatives: either that rental fees be substantially increased, which

will negate one of the major virtues of the Smithsonian Institution Traveling Exhibition Service, or additional sources of funding must be found.

The exhibition program is national in its intent and national in its service. By providing \$80,000 in fiscal year 1974, many benefits will be derived. First, additional exhibitions can be prepared on a wide variety of concerns which have hitherto only been partly tackled, concerns such as urban planning, ecology, architecture, and the sciences. Second, rental can be kept to a level that is approachable.

With your permission I would like to submit for the record a statement by the Director of the Smithsonian Institution Traveling Exhibition Service.

Senator BIBLE. The statement will be included in the record.

[The statement follows:]

Statement by Mr. Dennis Gould, Director
Smithsonian Institution Traveling Exhibition Service

First, the Smithsonian Institution Traveling Exhibition Service (SITES) is not self-supporting; it is mainly self-supporting and recent experience has proven that it costs Smithsonian private funds between \$10,000 and \$20,000 per year to subsidize a break-even fiscal position. Until now the Smithsonian has been able to accept these deficits deeming it not in the public interest to dramatically reorient SITES' services to only the more affluent cultural institutions in the United States. Yet, this would be the effect of our only alternative if funds are not obtained to permit us to keep our exhibit rental fees as low as is practical.

Second, regarding increase in services: We believe this part of the question could be answered by three points. An increase in funding will enable us to not raise rental fees again this year on our exhibits. Only a year ago we were forced to increase rental fees 15% "across-the-board." Indeed, if Federal funding is made available to SITES, it is believed that the last price increase may be, at least in part, rescinded; thus making all exhibits more available to more institutions. To speak of numbers, if SITES' exhibits are used at 80% of booking potential today, resulting in 550 installations, we feel that 90% use of all exhibition available time will be possible if they are offered at lower prices. This would mean an increase of bookings to 685, 135 more than in the last fiscal year for which we have records. We estimate that 8,000 persons view each SITES exhibit installation, therefore 1,080,000 additional persons would be served.

Further, it is the quality of service that concerns us. We would hire, after lowering our fees as above, an Education Coordinator to assist galleries booking our shows. This coordinator would develop materials that will enable exhibitors to make better use of our shows while they are installed. The materials developed would most probably be placed in a kit and would contain docent training information, slides, film lists, video tape lists, speakers lists, bibliographies, ideas for workshops and seminars and suggestions for adapting the exhibit content to local school curricula. We believe that getting an exhibit out and on to a wall is only part of our opportunity to serve galleries. We must help them make use of the show received. Experience has proven to us that exhibits arrive too near opening day to allow for the proper development of an education program by the host institution. We want to assist in this way and make the preparation possible in advance.

Another point that should be made clear under "increase in service:" We will use any other funds freed by Federal support to put Smithsonian collections in circulation. Less than 10% of our exhibits contain Smithsonian artifacts and we insist that this must change. What we have lacked are the means. We believe that several Smithsonian exhibitions could be made possible in this way. The number of exhibits would be determined by subject and by funds available.

OFFICE OF EXHIBITS

Senator BIBLE. Fifteen new positions are requested for the Exhibits Office, partly because of the new air and space museum, the zoo improvements and the like. Don't you already have funding for this purpose in the museum and zoo budgets?

Mr. PERROT. Over the next few years the Institution expects to construct many new exhibits, both permanent and temporary. We also want to be prepared to keep our existing exhibits in good condition. The 15 new positions requested in the fiscal year 1974 budget are to establish exhibits maintenance teams. This will free the existing staff to spend their time on new exhibits, and to give assistance to the National Air and Space Museum, the zoo and others.

The National Zoological Park started, in fiscal year 1973, an exhibits design and fabrication program for the cages at the zoo. We are requesting an increase for the program in 1974. This program calls for updating some of the older cages to make them more educational to the public. The funds are used for small contracts to produce educational exhibits immediately that will help to identify and explain the collection.

The National Air and Space Museum is requesting funds to accelerate their exhibits programs. The Air Museum must plan and execute 26 exhibit halls by July 4, 1976, when the building is expected to open to the public.

OFFICE OF EQUAL OPPORTUNITY

Senator BIBLE. What are the problems confronting the Institution that compels you to request nearly a doubling of your Office of Equal Opportunity?

Mr. AULT. It is not so much increased problems as an increased emphasis, a more positive program approach, that generates this need.

The Equal Employment Opportunity Act of 1972—Public Law 92-261—liberalized the procedures by which employees may register complaints for alleged instances of inequality. Proper counseling, and coordination between the employee and his supervisor, resolve the difficulty in the majority of cases. Liberalization of procedures, however, plus increasing awareness resulting from publicizing the passage of the act, has increased the volume of precomplaint counseling since July 1972. Moreover, the public law requires implementation of civil rights actions and coordination of women's programs. We are requesting one additional position for each of these functions, as well as to handle the increasing volume of counseling actions under our more positive approach.

SALE OF JEWELRY

Senator BIBLE. I understand some questions have been raised about the sale last November of some jewelry by the Cooper Hewitt Museum. You have already furnished the committee a summary of the situation. Would you like to comment on the sale?

Dr. RIPLEY. Only to say that the final result of this transaction—as planned—was to acquire 16 important pieces of Victorian jewelry for the Museum and to increase its purchase funds by some \$30,000 at the same time.

Senator BIBLE. Very well; you may proceed.

GENERAL PROGRAM ADMINISTRATION

Dr. RIPLEY. We have a final category under salaries and expenses of general program administration and direction. We are requesting an increase of \$299,000 and 16 positions for this work.

We will use these resources for administration at the institutional level, postage indicia costs, which are rising, financial management, career training and employee development, internal audit, equal opportunity programs, mathematical analysis in support of research, procurement services, management analysis, and printing duplication services.

Senator BIBLE. Now, will you supply for the record, if it is not in your budget justification, which is this very large document here, an organizational chart for the Smithsonian?

Dr. RIPLEY. Yes, sir, we will.

BOARD OF REGENTS

Senator BIBLE. Who is your governing board?

Dr. RIPLEY. The Board of Regents of the Institution set up by statute in 1846 consists of the Chief Justice, the Vice President of the United States, three Members of the Senate, three Members of the House, and nine citizen regents.

Senator BIBLE. And the citizen regents are appointed by whom?

Dr. RIPLEY. The citizen regents are appointed by joint resolution of the Congress as recommended by the Board of Regents, and they serve for a period of 6 years.

Senator BIBLE. From within the Board?

Dr. RIPLEY. By action of the Board, legislation for the appointment of citizen regents is proposed.

Senator BIBLE. Yes, by action of the Board.

Dr. RIPLEY. They are, of course, confirmed by the Congress in the enactment of the joint resolutions.

Senator BIBLE. Do we confirm all of the members of the Board of Regents?

Dr. RIPLEY. No, just the citizen members.

Senator BIBLE. The private members?

Dr. RIPLEY. Yes, sir.

Senator BIBLE. Well, supply for the record—I do see your organizational chart is in your budget justification, so it does not need to be duplicated.

I had not seen it and it had not been called to my attention.

Oh, it doesn't show the members of the Board of Regents.

Dr. RIPLEY. We have a list of the Board of Regents.

Senator BIBLE. They may be in your justification.

Dr. RIPLEY. I don't believe so. I will supply that for the record.

Senator BIBLE. Well, if they are not the staff can get hold of you and you can furnish it, but if they are in this large document here then that need not be done.

[The information follows:]

SMITHSONIAN INSTITUTION BOARD OF REGENTS

The Chief Justice of the United States, Honorable Warren E. Burger
The Vice President of the United States, Honorable Spiro T. Agnew
Mr. John Paul Austin, Citizen Regent

Dr. John Nicholas Brown, Citizen Regent
 Dr. William A. M. Burden, Citizen Regent
 Dr. Robert F. Goheen, Citizen Regent
 Dr. Crawford H. Greenewalt, Citizen Regent
 Dr. Caryl P. Haskins, Citizen Regent
 Honorable A. Leon Higginbotham, Jr., Citizen Regent
 Mr. Thomas J. Watson, Jr., Citizen Regent
 Mr. James E. Webb, Citizen Regent
 Honorable Henry M. Jackson, Congressional Regent
 Honorable J. W. Fulbright, Congressional Regent
 Honorable Hugh Scott, Congressional Regent
 Honorable William E. Minshall, Congressional Regent
 Honorable George H. Mahon, Congressional Regent
 Honorable John J. Rooney, Congressional Regent

SCIENCE INFORMATION EXCHANGE

Senator BIBLE. Next in order is the Smithsonian Science Information Exchange. The justification will be included in the record.
 [The justification follows:]

SMITHSONIAN SCIENCE INFORMATION EXCHANGE, INC.

1972 Appropriation.....	\$1,600,000
1973 Appropriation.....	\$1,600,000
1974 Estimate.....	\$1,665,000

The Smithsonian Science Information Exchange (SSIE) is the only information system of its type in the world. The Exchange is designed to collect, index, store, and retrieve information about ongoing research supported by the Federal Government and non-Federal organizations in all areas of basic and applied research. It has been in existence since 1950 and covers the life, physical, behavioral, and engineering sciences. The Exchange provides services designed to help research program managers, administrators and individual scientists avoid unwarranted duplication of research efforts, evaluate existing research efforts, and plan for new research programs.

The Exchange not only provides information directly to users but provides data to a number of specialized information centers. A list of such centers is shown in Table I. These centers provide information in a wide range of subject areas and cover both ongoing research and publications resulting from research. Thus they reach an even wider total audience than the Exchange does through its direct users. In addition, information contained in the Exchange's data base is used to prepare catalogs of ongoing work in specific areas of research such as Water Resources Research, Health Services Research, Aquatic Pest Control and Pesticide Residues in Aquatic Environment, Dental Research, etc. These catalogs are published by Federal agencies in increasing numbers and areas of interest as illustrated by Table II. They make information available to large numbers of users on a significantly broader scale than in response to individual requests made to the Exchange.

Among SSIE's unique features is the ability to provide prompt response to both broad and specific requests for information on research on a multidisciplinary basis, regardless of the source of support. The Exchange achieves uniformity of indexing by means of a well-trained scientific staff and a well-developed data processing system, utilizing the latest computer equipment and technology available for input, storage, and retrieval of information.

A steady increase in the demand for SSIE services and in the income derived from user sources is reflected by the data provided in Table III. Total user revenues exceeded \$371,000 in FY 1972, an increase of 61 percent over FY 1971. Federal usage accounted for just under 60 percent of the total. In addition, benefits to the Federal Government were realized through non-Federal usage of the SSIE by contractors and grantees planning and managing research under Federal sponsorship.

Increases in income (from user charges) over the past several years have had a significant effect on the cost to the Federal Government of supporting the activities of the Exchange. Although it is not expected that direct Federal costs will be offset in any substantial amount until user income exceeds \$650,000, growing user revenues can be shown to be absorbing an increasing portion of the indirect, largely fixed operating expenses incurred by the Exchange. This offset of fixed expenses is reflected by the data in Table IV.

This progress has not been rapid enough, however, to avoid the necessity of steadily reducing personnel strength in order to offset the combined impact of reduced Federal support and rapidly rising costs. In FY 1973, as a result of the January 1972, comparability pay increase (not offset by an additional appropriation), a further reduction in the full-time input staff (from 71 to 70) was required.

In the past, SSIE has partially compensated for a decline in personnel strength through improved methods of data processing. Further significant improvements cannot be expected without funds to develop more sophisticated methods for reducing input costs. A shift from full-time employees to part-time personnel may allow the Exchange to keep from falling too far behind in input, but backlogs are expected to continue to rise. Table V summarizes the current backlog

situation. An increase in input volume is expected in FY 1974 as a result of the impact of the General Accounting Office report of August 1972, entitled Usefulness of the Science Information Exchange Hampered by Lack of Complete, Current Research Information and the resulting efforts of the Smithsonian Institution, the Exchange and the Federal Council during 1972-73.

It would seem appropriate at this point to describe a number of actions which the Smithsonian and SSIE have taken in an effort to improve the problems noted in the GAO report regarding the completeness and timeliness of the SSIE data base.

--First, the Smithsonian Institution at the request of and in cooperation with the Office of Management and Budget has contracted for a user study to determine the need for SSIE and if the need exists, how the Exchange could improve its effectiveness, responsiveness, and value to research managers and scientists. This study is expected to be completed by the end of January 1973.

--Second, the Chairman of the SSIE Board of Directors and its President made a presentation to the Federal Council on Science and Technology and requested that group to consider ways to improve both input and use of the Exchange by Federal agencies. The Federal Council Chairman has asked the Committee on Scientific and Technical Information (COSATI) to study the problem and prepare a report on how the Federal agencies might improve both input and use of SSIE. This report should be completed by late January.

--Third, on the advice of the SSIE Advisory Council, the Secretary of the Smithsonian has requested the heads of several agencies, whose participation in SSIE has been less than complete or timely, to cooperate with SSIE in improving input. All of the agencies so contacted have agreed to work with SSIE to achieve these goals and are in the process of doing this.

--And, finally, the SSIE Board of Directors on the advice of the SSIE Council has acted to increase the size of the Advisory Council from eight Federal agency representatives to 16 representatives so that a better rapport and knowledge of SSIE will exist between the agencies and SSIE and problems of input and use can be more readily solved.

It is reasonable to expect that as a result of these activities as well as those of the GAO an increase in project input is quite likely.

Even without such an increase in volume the Exchange is faced with the problem of an increasing workload and constant staff. This increase, shown in Table VI, is a result of new summaries submitted by agencies on continuing projects. These new continuation summaries, which along with new projects, comprised 68 percent of the total input in FY 1968, rose to 86 percent of the total in FY 1972 as a direct result of increased agency efforts to provide more accurate summaries of their research projects. This development has significantly increased the workload on the Exchange's professional staff. The size of this staff has not been increased to cope with this growing workload of projects to be indexed but, rather, has remained essentially constant because of funding shortages.

An appropriation of \$1,665,000 is requested for FY 1974 to cover the costs of the staff currently supported by Federal funds and the Federal portion of anticipated increases in operating expenses many of which are fixed costs, e.g., building and computer equipment rental. The requested appropriation will only allow the Exchange to maintain its current data collection, indexing, and input shortage operation. The proposed FY 1974 budget is summarized in Table VII.

Table VIII presents revenue, expenditure, and related data from FY 1966 through projections for FY 1974. The table reflects a rapid reduction in the size of the SSIE staff during a period of rapidly rising personnel expenses. Attempts have been made to reduce the impact of this loss in staff through the development of increasingly sophisticated and efficient automated techniques. These attempts have been partially successful. User revenues have also provided an increasing share of the total costs of operation of the Exchange, although many of the larger contractual efforts also increase the requirement for outside services and service support.

TABLE I

List of Information Centers to Whom SCIE Provides Information
Regularly on a Selective Dissemination Basis

FEDERAL

<u>Organization</u>	<u>Responsible Individual</u>	<u>Address</u>	<u>Subject Covered</u>
Information Center for Hearing, Speech and Disorders of Communication, The Johns Hopkins Medical Inst.	Mrs. Lois F. Lunin	310 Harriet Lane Baltimore, Md. 21205	Hearing, speech & language.
Information Unit - Viral Oncology, National Cancer Institute	Louis P. Greenberg	Wiscoco Bldg., Rm. 4C-14 Bethesda, Md. 20014	Viral tumorigenesis reference code and carcinogenic viruses.
Program Statistics & Analysis Branch, NICHD, NIH	George Leverenz	Westwood Bldg., Rm. 809 Bethesda, Md. 20014	Preimplantation reproductive physiology, contraception, family planning services, demographic studies of fertility and population control.
NIMH, CSSP	Dr. Dan J. Lattieri	Room 12C16 5600 Fishers Lane Rockville, Md. 20852	Suicide.
National Clearinghouse for Smoking and Health	Dr. Daniel Horn	5401 Westbard Avenue Bethesda, Md. 20016	Smoking in regard to health, disease & tobacco.
Office of Communications, BSMHA, NIMH, NCDAI	Thomas J. Koehler	Parklawn Bldg., Rm. 8C-09 5600 Fishers Lane Rockville, Md. 20852	Drug addiction and abuse, all studies on psychotomimetics, marijuana, heroin, morphine, opium, and amphetamines (and all CNS stimulants).
National Institute of Mental Health	Dr. Nathan Rosenberg	5454 Wiscocoan Avenue Chevy Chase, Md. 20015	Alcoholism - medical and behavioral.
ERIC Clearinghouse for Social Science Education	Mrs. Violet Wagner	855 Broadway Boulder, Col. 80302	Social studies or social science education.
ERIC Information Analysis Center for Science and Mathematics Education	Robert W. Howe, Director	1460 West Lane Ave. Columbus, Ohio 43210	Science, Mathematics, and Environmental Education.
Educational Testing Service, ERIC Clearinghouse on Tests, Measurement and Evaluation	Richard O. Fortoa	Princeton, N.J. 08540	Tests and measurement devices and procedures.
Research Relating to Children ERIC/ECB	Mrs. Dorothy O'Connell	805 W. Pennsylvania Ave. Urbana, Illinois 61801	Behavioral studies of children.
Office of Drug Abuse The White House	Dr. Alan Green	1600 Pennsylvania Ave. Washington, D.C.	Drug addiction and drug abuse. Basic and clinical pharmacology of narcotics, psychotomimetics, CNS stimulants and depressants, tranquilizers, and some experimental analgesics of unspecified addicting potential.
Office of External Research Department of State	Miss Idris M. Bossell	Room 8647 (INR/XR/ARD) Washington, D.C.	U. S. Government supported work in the social and behavioral sciences (including a selection of public health studies) in or about foreign countries.
Highway Research Information Service	Stan Schofer	2100 Pennsylvania Ave. Room 513 Washington, D.C. 20037	Transportation Engineering.
Water Information Center, Inc.	Ms. E. P. Gillies	44 Sinsink Drive East Port Washington, N.Y. 11050	Investigations on the sub-surface disposal of waste.
Coffee Information Institute	Kenneth N. Anderson	Suite 1707 18 East 48th Street New York, N.Y. 10017	Coffee and caffeine.
Criminal Justice Newsletter National Council on Crime and Delinquency	Lawrence E. Resnick, Editor	NCCD Center Paramus, N.J. 07652	Crime, juvenile delinquency.
African Studies Association Shiffman Center	Ms. Carl Von Bahmann	Brandeis University Shiffman Ctr. - Rm. 205 Waltham, Mass. 02154	Studies in and about Africa.
World Rehabilitation Fund, Inc.	Ms. Susan Hammerman	400 East 34th Street New York, N.Y.	Rehabilitation of the physically disabled.
Bureau International de Documentation des Chemins de fer	Victor Caayn, Director	27, Rue de Londres Paris (9e) - 75 France	Railroads - including related information.
Non-Profit Report, Inc.	Henry C. Suhake	205 Main Street Danbury, Conn. 06810	Recreation and Leisure, Tax Studies, Library and Information Services, Day Care Services, Education (pre-school and disadvantaged), Politics (community participation), Urban Government (and politics), etc. (See Request #190).

TABLE II

1970 - 1972
Publications for which SSIE either prepared
the material for publication or supplied
material for use in the publication

<u>Title & Publisher</u>	<u>Prepared and Indexed Material for Publication</u>	<u>Supplied Input for Publication</u>	<u>No. of Copies Published</u>	<u>Agency or Organization Prepared for or Data Supplied to</u>
Vol. 7, Water Resources Research Catalog - Government Printing Office, 1972	Yes	Yes	3,500	Office of Water Re- sources Research, Dept. of the Interior
Environmental Protection Research Catalog	Yes	Yes	5,200	Environmental Pro- tection Agency
Dental Caries Research Catalog	Yes	Yes	2,000	NIDR - NIH
Dental Research in the U.S. and Canada	Yes	Yes	3,000	NIDR - NIH
A Catalog of Research in Aquatic Pest Control and Pesticide Residues in Aquatic Environments	Yes	Yes	1,500	EPA
Catalog of Health Services Research	Yes	Yes	2,500	NCRS-R&D - HEW
Sustaining University Program Research - Government Printing Office, 1970	Yes	Yes	700	Office of University Affairs, NASA
Population Research 1969 - U. S. Department of Health, Education & Welfare	Yes	Yes	2,000	NICHAMHD - NIH
Environmental Pollution - A Guide to Current Research	---	YES	2,000	Crowell, Collier & MacMillan, New York
Earth Sciences Research Catalog	---	Yes	300	University of Tulsa
Marine Research in the Coastal Plains Region	Yes	---	2,000	Coastal Plains Center for Marine Development, North Carolina
Research on U. S. International Trade - Government Printing Office, 1970	Yes	---	500	Export Strategy Staff, U. S. Department of Commerce
Catalog of Federally Funded Housing and Building Research & Technology - Government Printing Office - 1970	Yes	No	Not known	Office of Urban Tech- nology Research, U. S. Dept. of Housing and Urban Development
Catalog of Dental Health Manpower and Care Studies	Yes	Yes	200	Dental Health Institute, NIH
Outdoor Recreation Research 1970 - Government Printing Office	Yes	Yes	5,000	Bureau of Outdoor Recreation, Dept. of the Interior
Food Distribution Research Projects in Progress 1969 - Food Distribution Research Society, 1970	Yes	Yes	500	Food Distribution Research Society, Hyattsville, Maryland
	In Preparation			
Vol. 8, Water Resources Research Catalog	Yes	Yes		Office of Water Re- sources Research, Dept. of the Interior
Outdoor Recreation Research, 1972	Yes	Yes		Bureau of Outdoor Recreation, Dept. of the Interior
Marine Research Catalog, 1972	Yes	Yes		NOAA
Saline Water Catalog, 1972	Yes	Yes		Office of Saline Water
Research in Progress 1972-73	Yes	Yes		Academic Media, Inc. Los Angeles, Calif.

Table III

Summary of Major Categories of Services Provided by SSIE
(By Fiscal Year)

Major Category of Service	Includes	Type of User	Volume of Reports			Dollar Income		
			1970	1971	1972	1970	1971	1972
Requests for Subject Information	Custom Subject Searches Periodic mailing of Subject Searches Pre-run Subject Searches Historical Subject Searches	Federal	790	901	1,423	\$27,840	\$38,728	\$ 66,233
		Non-Federal	1,338	1,038	2,680	41,934	44,738	98,489
		Total	2,128	1,939	4,103	69,774	83,466	164,722
Requests for Searches on non-subject information	Investigator Searches Searches by Document Number Automatic Distribution of Documents	Federal	39,575	37,898	45,912	10,945	13,343	9,735
		Non-Federal	330	602	462	1,130	1,113	565
		Total	39,905	38,500	46,374	12,075	14,456	10,300
Large Requests for Information by Ad- ministrative* or Subject Categories or Both	Negotiated Requests	Federal	41	37	60	43,581	29,773	42,918
		Non-Federal	16	32	61	17,033	25,774	57,242
		Total	57	69	121	60,614	55,547	100,160
Preparation of camera- ready or tapes for catalogs of ongoing research in selected areas	Contracts	Federal	4	5	7	69,060	77,638	83,181
		Non-Federal	--	--	1	--	--	12,836
		Total	4	5	8	69,060	77,638	96,017
Total Income			Federal			151,426	159,482	202,067
			Non-Federal			60,097	71,625	169,132
			Total			211,523	231,107	371,199

*e.g., geographic location, support-

*e.g., geographic
location, support-
ing agency, etc.

Table IV

Cost Analysis: Input Costs vs. Incremental Costs of Output

FISCAL YEAR	ACTUAL COST OF OPERATIONS	TOTAL COSTS OF INPUT OPERATIONS ^{1/}	ACTUAL FEDERAL COSTS	INCREMENTAL COSTS OF OUTPUT	ACTUAL OUTPUT REVENUES	CONTRIBUTION OF OUTPUT REVENUES TO INPUT COSTS
1968	\$2,000,000 ^{2/}	\$1,757,000	\$2,000,000	\$243,000	--	(\$243,000)
1969	1,958,000	1,669,000	1,800,000	289,000	\$173,000	(116,000)
1970 ^{3/}	2,018,000	1,758,000	1,707,000	260,000 ^{4/}	212,000	(48,000)
1971	1,921,000	1,633,000	1,680,000	288,000	231,000	(57,000)
1972 ^{5/}	1,922,000	1,623,000	1,550,000	299,000	371,000	72,000
1973 ^{5/}	2,025,000	1,707,000	1,600,000	318,000	425,000	107,000
1974 ^{5/}	2,150,000	1,805,000	1,665,000	345,000	485,000	140,000

^{1/} Based on the estimated cost of operating an input processing activity without output operations.

^{2/} \$1,976,000 in FY 1968 costs plus balance forwarded from previous years included here to establish baseline.

^{3/} 10 month fiscal year extrapolated to 12 months to yield comparable data.

^{4/} Although use of Exchange services between FY 1969 and FY 1970 decreased significantly as a result of the inception of user charges, the incremental costs of output did not decrease correspondingly; the reason is initiation of intensive user education activities designed to rebuild use of Exchange services on a fee basis.

^{5/} Projected.

Table V

Backlog and Workload Analysis

<u>Fiscal Year</u>	<u>Total Number of Grants Registered</u>	<u>Indexing Staff Size</u>	<u>Total Continuations W/New Summaries and New Projects:</u>		<u>Project Workload per Scientist</u>		<u>New Project Backlog</u>
			<u>Received</u>	<u>Indexed</u>	<u>Assigned</u>	<u>Completed</u>	
1968	97,400	31.5	65,700	71,112	2,086	2,258	1,047
1969	89,000	28.0 ^{1/}	69,100	58,804	2,468	2,100	7,064
1970	79,800	26.9 ^{2/}	59,900	69,940	2,227	2,600	3,457
1971	96,600	21.0	82,600	58,697	3,933	2,795	8,969
1972	92,400	19.8	79,100	68,781	3,995	3,474	10,241

^{1/} Adjusted to reflect impact of RIF on December 6, 1968.

^{2/} Adjusted to reflect impact of RIF on March 28, 1970.

Table VI

Relationship of Projects Registered to Size of Professional Staff

	Grants Registered	New Projects	Continuations with New Summary	Total # of New Projects and Continuations with New Summary	Continuations with Identical Summary	Size of ¹ Professional Staff	Other Staff	Total ² Staff
FY 72	92,400	36,800	42,300	79,100 (86%)	13,300	25	58	83
FY 71	96,600	39,000	43,600	82,600 (85%)	14,000	26	64	90
FY 70	79,800	35,000	24,900	59,900 (75%)	19,900	32 ³	73	105
FY 69	89,000	45,300	23,800	69,100 (78%)	19,800	47 ⁴	90	137
FY 68	97,400	40,800	24,900	65,700 (68%)	31,700	45	99	144

¹This includes total professional staff for both input and output operations.

²Figures are man-years available at the beginning of each fiscal year.

³RIF occurred March 28, 1970.

⁴RIF occurred December 6, 1968.

TABLE VII

SMITHSONIAN SCIENCE INFORMATION EXCHANGE, INC.

PROPOSED BUDGET FY 1974

	<u>Total Cost of Operations</u>	<u>Federal Support Requested</u>	<u>User Support</u>
Personnel	\$1,546,285	\$1,207,197	\$339,088
Salaries	1,355,273	1,057,410	297,864
Benefits	191,011	149,787	41,224
Contract Services			
Travel	9,000	6,500	2,500
Transportation of Things	2,000	1,600	400
Rents			
Telephone	10,000	8,000	2,000
IBM	260,315	203,833	56,482
Xerox	10,000	7,650	2,350
Building	104,400	80,700	23,700
Other	9,000	5,200	3,800
Printing	4,000	2,700	1,300
Other Services			
Equipment Maintenance	5,000	3,620	1,380
Other	34,000	17,500	16,500
Supplies	21,000	14,000	7,000
Acquisition of Capital			
Equipment	10,000	6,500	3,500
TOTAL	\$2,025,000	\$1,565,000	\$460,000
SI Services	<u>125,000</u>	<u>100,000</u>	<u>25,000</u>
GRAND TOTAL	\$2,150,000	\$1,665,000	\$485,000

Table VIII
SSIE Revenues & Expenditures
(1966 - 1974)

SSIE Fiscal Year	Equivalent Full Time Staff Availability		Staff Salaries and Benefits		ADP Equipment Expense		Other Operations Expense	
	Actual	% Increase (Decrease)	Actual	% Increase (Decrease)	Actual	% Increase (Decrease)	Actual	% Increase (Decrease)
1966 (Base Year)	164	--	1,364	--	171	--	331	--
1967	155	(6%)	1,380	1%	178	4%	313	(5%)
1968	139	(15%)	1,427	5%	217	27%	331	-0-
1969	134	(18%)	1,330	(2%)	246	44%	382	15%
1970	88	(46%)	1,396	2%	254	49%	368	11%
1971 ¹	87	(47%)	1,363	-0-	250	46%	309	(7%)
1972	87	(47%)	1,439	5%	258	51%	301	(9%)
1973 ²	85	(48%)	1,471	8%	240	40%	314	(5%)
1974 ³	85	(48%)	1,546	13%	260	52%	344	14%

SSIE Fiscal Year	Total Cost of Operations		Direct Federal Support		SSIE Revenues		Input Processing Volume	
	Actual	% Increase (Decrease)	Actual	% Increase (Decrease)	Actual	% Increase (Decrease)	Actual	% Increase (Decrease)
1966 (Base Year)	1,866	--	1,902	--	--	--	--	--
1967	1,871	-0-	1,850	(3%)	--	--	--	--
1968	1,976	6%	2,000	5%	--	--	65,700	--
1969	1,958	5%	1,800	(5%)	173	--	69,100	5%
1970	2,018	8%	1,707	(10%)	212	-4	59,900	(9%)
1971 ¹	1,921	3%	1,680	(12%)	231	9%	82,600	26%
1972	1,922	3%	1,600	(16%)	371	75%	79,100	20%
1973 ²	2,025	8%	1,600	(16%)	425	100%	82,000	25%
1974 ³	2,150	15%	1,665	(13%)	485	129%	92,000	40%

¹10 month fiscal year projected on a 12 month basis.

²Projection based on current budget limitations.

³Projection based on projected requirements.

⁴1970 was selected as a base year for comparison of revenues as cost recovery program covered only a portion of FY 1969.

⁵Includes continuations with new summaries and new projects only (see Table V). Pre-1968 data is not available.

BUDGET REQUEST

Dr. RIPLEY. For the "Science Information Exchange," we are requesting in 1974 an increase of \$65,000 over the 1972 and 1973 levels, for a total budget request of \$1,665,000. This is the unique national information system.

This proposed budget will cover only the costs of the staff currently supported by Federal funds and the Federal portion of anticipated increases in primarily fixed operating expenses, such as building space and computer equipment rental.

Our budget submission for the Information Exchange outlines a number of actions which the Institution and the Exchange have taken to help correct the problems noted in the August 1972, General Accounting Office report regarding the completeness and timeliness of the Exchange's data base.

Senator BIBLE. Very well. Have you met the criticisms of GAO?

Dr. RIPLEY. We believe we have, sir. The criticisms, I may say, were essentially directed outward at our sources of supply, largely Government agencies, exhorting these agencies to provide us with the information which serves as the base from which the agencies themselves then demand reports.

Senator BIBLE. Very well.

SMITHSONIAN SCIENCE INFORMATION EXCHANGE

Senator BIBLE. Your justification statement refers to a steady increase in the demand for science information exchange services, with resulting increases in revenue from user charges—\$371,000 in fiscal 1972. Is this revenue continuing to increase in 1973? What is the total to date?

Dr. HERSEY. Mr. Chairman, we are pleased to be able to report that, in line with the projections submitted with the fiscal year 1974 budget, SSIE user revenues are continuing to increase. Actual sales through February total \$299,500. Projected at the current rate, the Exchange would expect to realize between \$425,000 and \$450,000 in revenues in fiscal year 1973, an increase of 15 to 20 percent over fiscal year 1972. Similar increases are projected for fiscal year 1974 and could even be slightly higher, largely on the basis of steps currently being undertaken by the Exchange to make information about its services available to an even wider segment of the research community. SSIE's increase in user revenues has made it possible to initiate these steps in fiscal year 1973; continued increases in fiscal year 1974 should make available the resources necessary to carry them forward.

Senator BIBLE. Can you forecast with any accuracy when the user revenues will reach a point where they can begin to offset Federal funding?

Dr. HERSEY. Mr. Chairman, perhaps I can best answer this question by directing your attention to table IV of the SSIE justification statement. As indicated in the table, income from SSIE user revenue began to contribute to operating expenses of the Exchange previously paid from Federal funds in fiscal year 1972. SSIE expects to steadily increase that contribution as user revenues continue to rise. Another way of expressing this increasing contribution is to look at Federal costs in terms of the total costs of operation of the Exchange. In fiscal year 1968, for example, Federal funds accounted for 100 percent of the

exchange operating costs; by fiscal year 1972, the amount was down to 81 percent; and based on projections for fiscal year 1974, it is expected that Federal costs will be further reduced to 77 percent of the total. We fully expect this trend to continue, in spite of overall, inflationary increases in costs.

We have not intended to convey to the Congress the impression that at some as yet unattained level of user revenues, the requirement for Federal support of the SSIE would suddenly be drastically reduced. As illustrated by table IV, such a change in requirements tends to be incremental rather than drastic, and tends, particularly in inflationary periods, to be expressed in terms of a stabilized level of support rather than an actual dollar reduction. The future derivation by the Congress of an optimal level of Federal support depends to some extent on our ability to invest incremental income in the further expansion of user sales toward technological innovation and for the absorption of inflationary increases in overall cost.

STAFF SIZE AND PROPOSED CHANGE

Senator BIBLE. You further state in the justification that rising costs and reduced Federal support have forced a reduction in staff. What is your staff size now, and how would it change under your 1974 budget estimate?

Dr. HERSEY. Mr. Chairman, as of now, SSIE is operating with a staff equivalent to 85 full-time positions. Of this total, 70 staff positions are paid from Federal funds and 15 are paid from user revenues. Under the fiscal year 1974 budget estimate, it is not expected that the total number will change, although it is anticipated that the support of two positions will shift from Federal to non-Federal sources of revenue.

As we noted in our budget presentation, the \$65,000 increase requested for fiscal year 1974 is intended to cover the increased costs of the staff supported by Federal funds and the Federal portion of anticipated increases in exchange operating expenses, many of which are fixed costs (for example, building and computer rental). In the absence of the proposed increase, a further reduction in the SSIE staff would probably be required.

Senator BIBLE. By reduction in Federal support, were you referring only to the \$50,000 cutback in your 1973 appropriation request?

Dr. HERSEY. Mr. Chairman, the reduction in Federal support identified in SSIE's justification statement referred less to the \$50,000 cutback in fiscal year 1973 than to the longer range trend evident from the data on table VIII. These data indicate that the Exchange, under pressure of inflationary increases in the cost of staff salaries and benefits, has had to reduce the size of its staff over the past 8 years by nearly 50 percent and, in spite of this reduction, has been unable to reduce the net costs of the staff which it has retained. Over the same period, Federal support for the Exchange has been reduced from \$1,902 million in fiscal year 1966 to the requested \$1,665 million in fiscal year 1974.

The Exchange has been able to compensate for much of the reduction by increasing its user revenues and rapidly implementing technological innovations designed to improve staff productivity. One of the consequences of the reduction, however, has been an increasing backlog

of projects on hand but not entered into the SSIE data base. Current efforts to reduce the backlog, which SSIE has already accomplished with some success, are dependent upon the ability of the Exchange to meet cost increases and expand user revenues without further reductions in the staff.

PERCENTAGE INCREASE IN INPUT OF INFORMATION

Senator BIBLE. You indicate the input of information into the Exchange will pick up as a result of the 1972 GAO report, which we discussed at length last year. How much of an increase? Ten percent? Thirty percent?

Dr. HERSEY. It is difficult to give an accurate answer to this question, Mr. Chairman, since a great deal depends upon the promptness with which agencies which were previously incomplete began reporting their data, however, an estimate which seems possible in light of our present negotiations with several agencies would be an increase of 10,000 to 15,000 projects. This would be about a 13-percent increase in fiscal year 1974 over our estimate for fiscal year 1973. Part of the difficulty in arriving at an accurate figure is based on the fact that certain Federal programs which were supported in previous years may be cut during current budget hearings and thus research support and project registration in certain agencies reduced, possibly offsetting projected gains.

USER STUDY

Senator BIBLE. Now, the user study you contracted for was expected to be complete by last January. Is it complete? If so, what recommendations stemmed from it and how have you implemented them?

Dr. HERSEY. The user study you refer to was completed in late January of this year and a copy of it will be made available for your committee if you wish. Both OMB and the Smithsonian participated in the preparation of the questions to be answered by the study and both participated in reviewing the progress of the study team. The user study recommended that the Exchange be continued and its operation strengthened through a series of actions. The Smithsonian, based on that study and other factors such as previous studies and Advisory Council recommendations, advised OMB that the Exchange is an important part of the process of research management not only to the bench level scientist, but research managers as well and that it performs a beneficial service to the Federal Government by the exchange of information about research in progress between the agencies and should be continued as a central agency.

The user study made a number of specific recommendations regarding ways to improve input and use of the Exchange. These included greater cooperation between agencies and the Exchange including development of formal agreements where necessary to improve input and increase dissemination of information on the use of SSIE through the Advisory Council representatives of each agency. We have been taking most of these actions and will endeavor to employ those not presently being utilized.

Probably the single most important recommendation made was that OMB issue a statement which will clearly establish the Ex-

change's role in the federal system of research management. If this action were taken we feel a number of other problems which exist with regard to input and use of the Exchange could be solved more expeditiously.

Smithsonian agrees with all of the general recommendations made by the user study team and feels that implementation of a number of these will require OMB support if they are to be implemented.

Senator BIBLE. A separate study by the Council on Science and Technology on exchange improvements was also expected in January. What is the status of that report?

Dr. HERSEY. The study you are referring to, Senator, was to be in the form of a report from the chairman of the Committee on Scientific and Technical Information to Dr. David, the chairman of the Federal Council on Science and Technology (FCST) regarding ways in which input to and use of the Exchange by Federal agencies could be improved. A questionnaire on these problems was sent out and responses received from most agencies by early January. However, as you probably know, the President proposed to Congress to abolish the Office of Science and Technology and the present status of FCST is unclear since its chairman was also the head of the Office of Science and Technology, Dr. David. The report which is being prepared then, must await a decision pending reorganization of the OST and FCST, or at least the appointment of a new chairman. It is my feeling that the report will contain responses similar to those in the GAO and user study reports and suggest closer liaison between SSIE and the Federal agencies along lines similar to those recommended by the SI's user study. Pending an opportunity to study the COSATI report ourselves, we are presently proceeding to expand our cooperative agreements for input and expanded use of the Exchange with as many agencies as possible in this year and fiscal year 1974.

AGENCY PARTICIPATION

Senator BIBLE. As a result of the GAO report, you state that several agencies whose participation had been "less than complete or timely" were asked to improve their efforts. Which agencies? Have they responded?

Dr. HERSEY. Mr. Chairman, there were nine agencies to whom we initially wrote regarding their input. All of them responded in the sense that they agreed to cooperate with the Exchange in providing more complete and timely input or in designating an individual who would work with SSIE to review their input procedures. The agencies included the Departments of State, Interior, Commerce, Housing and Urban Development and the AEC, NSF, NASA, VA, and OEO. I am pleased to say that improvements are already underway in six of them. Those agencies so responding include DOD, NASA, NSF, HUD, Interior, and the VA. Negotiations with Commerce and State are still in the process of discussion and OEO is presently in uncertain status regarding its continuation. We are also in the midst of efforts to improve input by two other major agencies; namely, HEW and Agriculture, both of whom have been very cooperative in the past. The changes agreed upon to date by all agencies should help in the more prompt reporting of research and spread the SSIE input workload out more evenly throughout the year.

RALI PROGRAM

Senator BIBLE. Later this week we will be hearing the budget estimates of the U.S. Geological Survey, which is asking to initiate a rather comprehensive resource information program. Are you aware of this effort? Will your exchange have any participation?

Dr. HERSEY. I believe, Mr. Chairman, you are referring to the "RALI" program (resources analysis and land information program) of the Department of the Interior. We have discussed this program with the people in the Department of the Interior and understand that this is a system designed to capture geochemical data, mineral resources data, water level data, and the like for such purposes as making land use decisions. It is not intended to be a data base of ongoing research although such research as might be carried out in connection with the program will be sent to the SSIE for incorporation in its files. I might add, if I may, that the Department of the Interior is one of the agencies which has cooperated very well with SSIE even to the point, at least in some bureaus, of trying to provide us with tape input of their research program. I believe it is fair to say that there will be no duplication between the RALI program's data base and that maintained by SSIE.

SPECIAL FOREIGN CURRENCY PROGRAM

Senator BIBLE. A sizable increase is requested for the special foreign currency program. The justification will be included in the record.

[The justification follows:]

SMITHSONIAN INSTITUTION
MUSEUM PROGRAMS, SCIENTIFIC AND CULTURAL RESEARCH
(SPECIAL FOREIGN CURRENCY PROGRAM)

1972 Appropriation	\$3,500,000	
1973 Appropriation	\$3,500,000	Equivalent in "Excess"
1974 Estimate	\$9,000,000	Foreign Currencies

An appropriation of \$9,000,000 in foreign currencies determined by the Treasury Department to be in "excess" to the normal needs of the United States is requested for Fiscal Year 1974. The appropriation will be used:

1) To continue a program of grants to United States institutions for field research in those countries where "excess" local currencies are available. The research will be performed in the following general areas of Smithsonian Institution interest and competence:

Commitment of Funds by Program Area

	<u>FY-1966-72 Cumulative Commitments</u>	<u>FY-1973 Estimated Commitments</u>	<u>FY-1974 Appropriation Request</u>
Archeology and Related Disciplines	\$9,025,275	\$1,400,000	\$2,000,000
Systematic and En- vironmental Biology	6,304,544	1,400,000	2,000,000
Astrophysics and Earth Sciences	982,591	500,000	750,000
Museum Programs	178,000	190,000	220,000
Grant Administration	73,590	10,000	30,000
	\$16,564,000	\$3,500,000	\$5,000,000

2) To complete with one final payment of \$4,000,000 equivalent in "excess" Egyptian pounds the United States' contribution to UNESCO's international campaign to preserve archeological monuments in Nubia which are inundated by Nile River waters regulated by the Aswan Dam. This payment will support the preservation of the monuments on the Island of Philae as proposed by President Kennedy in his letter to the Congress dated April 6, 1961.

ON-GOING RESEARCH GRANTS PROGRAM

In its seven years, the Smithsonian Foreign Currency Program has awarded 362 grants for field research totalling almost \$16,600,000 equivalent in "excess" foreign currencies to United States institutions of high learning. It has thus benefited more than 200 museums, universities and research institutes in 32 states. Benefits include research opportunities for more than 214 post-doctoral scholars and more than 221 pre-doctoral students. Benefits also include major additions to the study collections of more than 28 museums and universities in 18 states.

NEED FOR INCREASE

In FY 1972, obligations for field research totalled \$3,400,000 equivalent in "excess" foreign currencies out of a total appropriation for that year of \$3,500,000 equivalent. In addition, awards totalling

\$922,000 equivalent remained unfunded pending completion of host country clearances.

An increased appropriation is essential in FY 1974 to cover unfunded awards and to meet the demand reflected by the constant flow of new and meritorious research proposals. Applications known to be in preparation total at least 73. This level of activity persists in spite of the removal of Israel, one of the most active areas of Smithsonian sponsored research, and Morocco from the list of "excess" currency countries. This level of activity persists also in spite of the removal, in all but name, of Yugoslavia from the list since funds there are no longer adequate to support new research.

An increased appropriation is essential also to respond to the high priority assigned by both the United States and by "excess" currency host countries to research which includes a phase devoted to applying the results of the basic studies. This means, for example, that in archeology, Smithsonian funds flow to planning the utilization of sites for cultural tourism and to planning and executing ecological research hand-in-hand with host governments in order to provide data which will contribute to sound economic and pollution control programs.

Moreover, in India alone, 36 projects, primarily in the field of environmental assessment, are in different stages of development, eight of them emerging in recent months.

Renewed interest in research collaboration in Pakistan is contributing to the momentum of new applications also. Bi-national scientific discussions looking toward preparation of eight major proposals in the fields of environmental assessment and conservation were initiated by United States and Pakistani institutions in recent months.

In Burma, development of two proposals, one in archeology and one in wild life conservation, to be undertaken by United States institutions in collaboration with UNESCO and the International Union for the Conservation of Nature and Natural Resources respectively, provide the first indications of renewed Burmese interest in associating with the United States in research in many years.

As a result of President Nixon's visit to Poland, 11 joint research proposals are in preparation with the encouragement of the Polish government. This represents a reversal of past practice there where Smithsonian activities have been essentially limited to exchanges of individual scholars.

Moreover, on-going Smithsonian sponsored research continues in all the excess currency countries without interruption, including India and Egypt despite changing political winds at the governmental level in those countries.

And finally, the increased appropriation is essential to ensure support for new and on-going research which contributes to United States national programs under, for example, the International Biological Program, the International Decade of Ocean Exploration, the National Aeronautics and Space Administration, the National Academy of Sciences, the United States National Museum and the Department of Interior's cooperative programs abroad under the Endangered Species Conservation Act.

The appropriation increase to \$5,000,000 equivalent requested for grants for field research in FY 1974 is essential to meet these on-going and new demands. This request is, however, \$1,000,000 equivalent lower than the \$6,000,000 equivalent requested for FY 1973. This is so because Israel and Morocco have been removed from the list of "excess" currency countries and Yugoslavia is probably soon to follow.

OUTSTANDING PROGRAMS

Outstanding field research programs receiving Smithsonian Foreign Currency Program support include:

1. Denison University's archeological excavations at Sirmium in Yugoslavia where research has provided new understanding of the nature of Roman rule in its provinces and particularly of the processes of change in these areas as the empire declined and control passed to the "barbarian hordes".
2. Yale University's basic ecological studies in the Gir Forest Sanctuary of India which have been adopted as a model by Indian National Parks and by conservation officials there for further ecosystem studies leading to development of sound park management programs.
3. Utah State University's pioneering computer-programmed studies of desert ecosystems in the United States which have been extended to Tunisia and are planned for India as well. In these two countries, the studies can be expected to have special importance because of the dramatic annual degradation of scarce agricultural land into desert wasteland.
4. The Smithsonian Institution's studies, carried out by its Center for the Study of Man, synthesizing the current understanding of anthropologists around the world about what hinders educational reform. The work of specialists in the transmission of culture through educational systems is being assessed for publication in a form intended to aid governments and educators in their efforts to improve educational systems.

FINAL U.S. CONTRIBUTION TO UNESCO'S NUBIAN MONUMENTS CAMPAIGN

The Smithsonian is seeking an appropriation of \$4,000,000 equivalent in excess Egyptian pounds, in addition to the \$5,000,000 equivalent requested for grants for field research, to complete with one final payment the United States' contribution to UNESCO'S international campaign to preserve the temples on the Island of Philae. This payment was proposed by President Kennedy in his letter to the Congress dated April 6, 1961. In President Kennedy's words, "The Temples on the Island of Philae are known as the 'Pearl of Egypt' ... there would be no more effective expression of our interest in preserving the cultural monuments of the Nile Valley than an American offer to finance the preservation of these temples. I am directing that the Egyptian pound equivalent of 6 million dollars be set aside for this purpose. When required, an appropriation to cover the use of this sum will be sought."

The Smithsonian is seeking four million dollars equivalent in Egyptian pounds, not the six million equivalent proposed by President Kennedy, because the United States would now be only one of many nations contributing to the salvage of the Philae monuments not the sole donor as President Kennedy originally proposed. The total cost of this salvage program will probably exceed \$16 million in convertible and local currencies. This substantially higher cost results from both rising prices and an improved salvage plan. Some \$10 million of this total has already been pledged by other nations.

The institution is seeking this appropriation at this time because about two-thirds of the needed funds, including the necessary convertible currencies, has been pledged and, as a consequence, work on the Coffer dam has begun.

This appropriation is requested by the Smithsonian because of the Institution's traditional concern for the preservation of all forms of cultural expression. It is requested also because the function of

making grants for archeology abroad using "excess" foreign currencies was approved by the then Bureau of the Budget for transfer from the Department of State to the Smithsonian beginning in FY 1966 after two earlier United States contributions to UNESCO's Nubian Monuments Campaign had been made. Before FY 1966, the Department of State awarded grants totalling \$1.5 million equivalent in Egyptian pounds to United States archeological research institutions for salvage excavations in the areas of Egypt and the Sudan to be inundated by Nile River waters impounded by the Aswan High Dam. These monies, as well as a \$2.5 million equivalent contribution toward the cost of the UNESCO program to salvage lesser temples in the same area, were appropriated to the Department of State in FY 1962. In FY 1965, that Department sponsored a further contribution of \$12 million equivalent toward the salvage of the massive temples at Abu Simbel. Each of these contributions, like that for the preservation of the temples on the Island of Philae, was proposed by President Kennedy in 1961.

It is in the United States interest to contribute to the preservation of the Temples of Philae because of their interest to our scholars for generations to come. Moreover, by continuing cooperation in the Nubian Monuments Campaign, we maintain today's rich opportunities for American institutions of higher learning to conduct studies in Egypt and we enhance United States' cultural relations with that country. In proposing that the United States join in this UNESCO campaign, President Kennedy said in his letter of April 6, 1961 to the Congress that he considered it "to be in the interest of the United States to assist in rescuing these historic remains of a former civilization from destruction--and to join the international effort to conduct exploration and research in the threatened area of Nubia before it is submerged for all time". Today, in the absence of diplomatic relations with Egypt, the Smithsonian's request for funds to complete the United States contribution to this international campaign takes on even greater significance in maintaining the basic cultural associations which are the most enduring form of contact between nations. In this context, the United States has received the priceless Temple of Dendur from Egypt in appreciation for our Nubian Campaign support.

The temples on the Island of Philae, located between the new Aswan High Dam and the old Aswan, or Low Dam, are the most important archeological monuments in Egypt of their periods and are symbols of the heritage of western man. The temples, built in Pharaonic, Greek and Roman times, stand side-by-side on an island no more than 420 years long and 150 yards wide. They subsequently long served as Christian chapels as their rich inscriptions attest. Major structures include the Temple of Isis started by Pharaoh Nectanebo in the 4th Century B.C., the Portico of Augustus and Tiberius and the Kiosk of Emperor Trajan. All are today completely submerged by the Nile which is maintained at a constant level between the two dams for hydro-electric and irrigation purposes.

The salvage plan finally adopted by UNESCO's international advisory group, with the advice and concurrence of an American engineer, provides for a Cofferdam to be erected around the Island of Philae to permit the lowering of the water for removal of the Temples. They are then to be re-erected on the nearby Island of Agilkia in a setting like the original one. There they will be safe from further erosion by the river, and accessible to all.

USE OF FOREIGN CURRENCIES SAVE HARD DOLLARS

Special Foreign Currency Program appropriations are an advantageous source of research monies. This is so because they are not new appropriations of tax dollars and because delay in the use of the "excess" accounts means continuing losses to the United States

Treasury as these accounts lose value through inflation and devaluation. Moreover, these appropriations do not add significantly to the President's budget total because the Commodity Credit Corporation reduces its appropriation request by an amount equal to the amount of foreign currencies expended.

At the same time, Special Foreign Currency Program appropriations contribute to essential national research objectives abroad without contributing to a balance of payments deficit. Moreover, Smithsonian Foreign Currency grants frequently serve as dollar-saving supplements to the dollar grants of both public and private agencies like the National Endowment for the Humanities, the National Science Foundation, the National Institutes of Health, the National Aeronautics and Space Administration, the World Wildlife Fund, the National Geographic Society, the John D. Rockefeller III Fund and the Wenner-Gren Foundation. In such cases, the foreign currency grants cover costs in the host country; the dollar grants are expended in the United States for equipment not available in "excess" currency countries, for American salaries, laboratory fees and the like.

Direct dollar costs to the Smithsonian for its Foreign Currency Program are limited to those for administrative personnel in Washington. During fiscal year 1973 six people were employed in the Office of International Activities for this purpose at a total cost of about \$114,000.

One additional person is requested in fiscal year 1974, a regional coordinator for South Asia (\$16,000) for a total cost of \$130,000 for administration of the Foreign Currency Program. This increase is essential to meet the special demands of growing research activity in South Asia. (See Salaries and Expenses justification for the Office of International Activities).

This Special Foreign Currency Program request, as in the past, is based on budget projections for on-going research and on pending and new research proposals which include firm research proposals, those postponed by lack of sufficient funds, and other sample or illustrative proposals based on firm indications of interest both within and without the Smithsonian. They represent the Institution's selection of possible projects which appear most promising for successful development and implementation during fiscal year 1974. A list of such projects is submitted as a supplement to the Smithsonian's Fiscal Year 1974 budget request. It should be noted, however, that actual implementation of these projects will be contingent upon three factors: review by the Smithsonian's national scientific advisory councils, review and approval by American embassies overseas, and appropriate cooperative arrangements with host-country institutions or Governmental authorities.

Commitments of Funds by Country
Fiscal Years 1972, 1973, and 1974

Country	FY 1972 Actual	FY 1973 Estimate	FY 1974 Estimate
Burma	\$ 200	\$ 8,000	\$ 12,000
Egypt	674,400	500,000	4,680,000
Guinea	-	2,000	8,000
India	555,500	1,200,000	1,350,000
Israel	506,600	-	-
Morocco	73,500	160,000	-
Pakistan	13,500	200,000	650,000
Poland	69,200	230,000	650,000
Tunisia	502,600	400,000	500,000
Yugoslavia	999,900	800,000	1,150,000
	<u>\$3,395,400</u>	<u>\$3,500,000</u>	<u>\$9,000,000</u>

INCREASE IN FUNDING FOR OVERSEAS WORK

Dr. RIPLEY. Our special foreign currency program has a requested increase for this year of \$5,500,000 for a total funding level of \$9 million.

The basic program, of course, which we have been managing for some years, provides grants to American institutions of higher learning for overseas work in archeology, biological research, astrophysical and earth science studies, and museum programs. It has benefited more than 200 museums, universities, and research institutes in 32 States.

The budget request would allow us to meet the demand reflected by the constant flow of new and meritorious research proposals and to respond to the high priorities assigned to this, both by the U.S. institutions and by our host countries abroad, which have excess currency funds which are available to this program.

Important new collaborative research opportunities have opened up, especially in India, Pakistan, Burma, and Poland.

In addition, this proposed funding level includes a one-time request for \$4 million equivalent in "excess" Egyptian pounds, which would serve as the U.S. contribution to UNESCO's international campaign, to preserve archeological monuments in Nubia.

These are threatened by the waters of the Nile River, as regulated by the Aswan Dam. The payment will support the preservation work proposed by Public Law 86-472 and supported by President Kennedy in his letter to the Congress dated April 6, 1961.

COST OF ADMINISTERING THE SPECIAL FOREIGN CURRENCY PROGRAM

Senator BIBLE. How many American dollars are required to support the foreign currency program, which would go from a current level of \$3½ million to a 1974 level of \$9 million?

Dr. RIPLEY. We have a dollar expenditure in this country for servicing this entire program of \$130,000.

SPECIAL FOREIGN CURRENCY

Senator BIBLE. Last year you requested \$6 million in foreign currencies deemed to be in excess of normal U.S. needs abroad. We gave you only \$3.5 million. These "soft money" programs have not been too popular with Congress. Why are you seeking this substantial increase?

Dr. RIPLEY. A major component of the requested increase is for a one-time amount of \$4 million for the Philae monuments salvage archeology project. The balance of the request is for the regular grants program.

The Smithsonian continuing "soft money" program has much to recommend it to the Congress. Our program stands apart from other such "excess" foreign currency programs. This is so first and foremost, because our grants flow to U.S. institutions to support research projects which are integral to these institutions' programs. More than 220 of our universities and museums in 32 States and the District of Columbia have benefited from our grants. Furthermore, these funds make possible vital American research field trips abroad without the export of dollars.

The additional \$5 million we are requesting for fiscal year 1974 does represent an increase of \$1.5 million from this year's appropria-

tion of \$3.5 million. This increase is a reflection of the continuing and growing interest in research programs being developed jointly by U.S. institutions and their foreign counterparts.

For example, as a result of President Nixon's visit to Poland, 11 proposals are in preparation, primarily in the field of astrophysics. This represents a marked increase in interest in joint research in Poland where Smithsonian activities had been essentially limited to exchanges of individual scholars.

In Egypt, a major new program is proposed to study the biological changes in the water impounded by the Aswan Dam and what this may mean to people dependent on a single major river system.

In the case of India, over 30 projects, most of them in the field of environmental assessment, are in different stages of development.

In Pakistan, too, there has been increased interest in the joint development of research proposals, many of these in the area of conservation, not only to preserve wildlife, but to develop game animals as an additional source of much needed protein.

To summarize, the increase requested is a reflection not only of U.S. institutional interest in research overseas, but of foreign institutions desiring to cooperate with the U.S. scientific community in solving problems of mutual concern.

NUBIAN MONUMENTS OF EGYPT

Senator BIBLE. Please summarize the budget estimate of \$4.6 million as it relates to the Nubian Monuments program in the Nile Valley.

Mr. EUELL. A U.S. contribution of \$4 million, not \$4.6 million, in excess Egyptian pounds is proposed. This would represent about 25 percent of the estimated total cost of the Philae project and be in line with the limit on the U.S. contribution to the U.N. to a maximum of 25 percent.

When the contract was signed June 3, 1971, between the Egyptian Ministry of Culture and the engineering firms—one Egyptian and one a joint Italian company—it was estimated that the cost would be \$13,668,000. However, UNESCO authorities in Cairo stated in January 1972 that inflation had raised the cost to \$14,997,000 as follows:

Main contract (for coffer dam, pumping, dismantling, and recreation of monuments, landscaping).....	\$11, 700, 000
Steel sheet piling.....	747, 500
Engineering.....	950, 000
Contingency.....	1, 600, 000
Total.....	14, 997, 500

INFLATION POSES INCREASE IN ESTIMATE

Mr. EUELL. In view of inflation during the 5 years that work will be in progress, a figure in excess of \$16 million would seem more realistic than the current estimate of \$15 million. About one-third will be in hard currency. Egypt has already provided \$1,663,000 in such funds and UNESCO is assisting Egypt in converting Egyptian pounds to other necessary currencies. Egypt has promised to pay one-third of the total costs, that is the equivalent of about \$5,500,000.

Senator BIBLE. In your justification statement you contend the use of foreign currencies saves hard dollars and is an advantageous source of research funding. Please enlarge on this for the committee.

Dr. RIPLEY. The Smithsonian foreign currency program supports the research of American scholars and their American institutions. If these excess foreign currencies were not available, similar research would have to be funded with dollars and some of those dollars would

flow abroad. To maintain their reputations as researchers, our American scholars must press on with the solution of priority problems many of which can only be studied outside the United States. In studying tropical ecosystems, a scholar must of necessity leave the United States and work in the tropics.

Moreover, the state of the art is such that he must undertake comparative studies of tropical ecosystems on other continents. This is especially true of our temperate zone ecosystem studies. For example, Smithsonian scholars working at our Tropical Research Institute in Panama, have conducted comparative studies of tropical ecosystems in India. Moreover, as a part of the U.S. contribution to the international biological program, American scholars with Smithsonian excess currency grants are following closely the temperate zone studies of their colleagues in Poland and directing comparative studies of the desert in Tunisia following the basic research plan of Utah State University which is being applied in the United States.

Without foreign currencies, hard dollars would have supported this research and flowed abroad contributing to our balance of payments deficit. It is advantageous to have these funds available in these countries both to save hard dollars and to facilitate cooperation with the scientists of the excess currency countries as well as to facilitate our access to areas of comparative study.

FOREIGN CURRENCY ADMINISTRATIVE COSTS

Senator BIBLE. Now, when you send somebody from this country to Cyprus, or to the Nile, or wherever, pursuant to this foreign currency program, don't you pay the salaries and the travel expenses, the per diem of the American official?

Dr. RIPLEY. No, sir, we do not in that sense. Whatever grant they received is only in the excess currency and not in American dollars as such.

Senator BIBLE. Then, what do you spend, what was the figure, \$130,000?

Dr. RIPLEY. The \$130,000 is the money that we spend to administer the program in total. That is our staff who have to receive the project requests, who have to service them, who have to perform all the tasks involved in putting the requests together. And then we have panels of experts that are brought in. They have small per diem expenses just as any review panel does for the National Science Foundation or other similar foundations.

Senator BIBLE. And you are going into only those countries where we do have excess currencies?

Dr. RIPLEY. That is right.

Senator BIBLE. Well, it seems to me the Smithsonian is best justified or any of the governmental agencies to make use of the foreign currency program, but I have always been curious as to how many American dollars it costs to administer a special foreign currency program.

Your statement is this year it is roughly \$130,000.

Dr. RIPLEY. We think it is a very prudently administered program and has been enormously effective for the dollars involved.

Senator BIBLE. Very well.

Senator STEVENS. The excess Egyptian pounds, is that a program of this type you are talking about? Now, will that be administered by the \$130,000, too?

Dr. RIPLEY. We would administer that part of this project that we would need to. What it really consists of is a grant for the finishing of this UNESCO project, the preservation of the Temples of Philae.

The UNESCO and U.N. agencies have been raising funds for a number of years and they have raised a large amount of money and the final payment would be the United States, as it were, contribution to this international fund.

Senator STEVENS. That is our surplus foreign currency?

Dr. RIPLEY. Yes, sir.

Senator STEVENS. Thank you.

PLANNING, CONSTRUCTION, RESTORATION, AND RENOVATION

Senator BIBLE. The next item, Dr. Ripley, is your building and construction program. The justifications will be included in the record. [The justifications follow:]

SMITHSONIAN INSTITUTION CURRENT BUILDING PROGRAM

<u>Project</u>	<u>Appropriated to Date</u>	<u>Fiscal Year 1974 Request</u>
Construction and Improvements, National Zoological Park	\$9,578,000	\$3,850,000 <u>1/</u>
Restoration and Renovation of Buildings	13,887,000	1,220,000 <u>2/</u>
Construction:		
Hirshhorn Museum and Sculpture Garden	15,000,000 <u>3/</u>	...
National Air and Space Museum	14,900,000 <u>4/</u>	27,000,000 <u>5/</u>

- 1/ Planning parking, operations and maintenance, exhibit, and visitor facilities; construction of large cat exhibit; and building and facilities repairs.
- 2/ Further improvements to electrical power distribution system and access road at the Mt. Hopkins observatory; library addition planning; repairs and improvements to buildings and facilities; and development of a master plan for Smithsonian Institution facilities.
- 3/ Excludes \$200,000 for relocation of the Armed Forces Institute of Pathology and \$1,000,000 committed by Mr. Joseph H. Hirshhorn for construction.
- 4/ Plus an additional \$27,000,000 in contract authority.
- 5/ Appropriation to liquidate contract authority.

CONSTRUCTION AND IMPROVEMENTS,
NATIONAL ZOOLOGICAL PARK

1972 Appropriation..... \$ 200,000
 1973 Appropriation..... \$ 675,000
 1974 Estimate..... \$3,850,000

An appropriation of \$3,850,000 is requested for construction of Lion Hill (large cat exhibit); for planning the terraced parking and operations and maintenance facility; for tentative design of the primate exhibit and development of adjoining Rock Creek Valley; designing the Elephant House exterior paddocks, modified interior treatment, landscaping, and walks; designing the Bird House environs, waterfowl pond, crane yard, sanctuary, walks, and graphics; designing the Harvard Street restaurant; and for the program of renovations and repairs of existing facilities at the National Zoological Park. Schematic designs for these facilities were included with the Master Plan for the Zoo which received approval from the Commission of Fine Arts on July 12, 1972, and the National Capital Planning Commission on September 7, 1972.

Funds are requested in the following categories:

1. Construction of Lion Hill (Large Cat Exhibit) (\$3,000,000)

An appropriation of \$3,000,000 is requested for the large cat (lion and tiger) exhibit. This will replace the present Lion House constructed in 1890 which is a dangerous fire hazard. The old building is substantially as it was

built, no large scale remodeling has ever been done, and the small and confined exhibit cages are typical of zoo exhibit techniques at the turn of the century. Rehabilitation is undesirable from an animal exhibition and management viewpoint, and uneconomical from a design and construction viewpoint. The new lion and tiger exhibit will feature large outside exhibit yards or grottos fronted by wide visitor walkways interspersed with seating and viewing areas. Wide water moats will be used to contain the animals. Extensive landscaping will be employed to present a natural environment with the illusion of freedom for the animals. The necessary shelters, cubbing dens, and animal holding and service facilities, including curator's offices and laboratories, will be underground structures so as to minimize the impact of architectural structures upon the landscape. Indoor animal viewing for visitors who frequent the Zoo during periods of inclement weather will be provided. Planning funds (\$275,000) for this major new exhibition are in the FY 1973 appropriation.

2. Planning (\$620,000)

--Visitors Parking and Operations and Maintenance Structure -- \$300,000

An amount of \$300,000 is sought for design of tentative plans for the entire Terraced Parking Structure and operations and maintenance quarters at ground level, and for detailed plans for Phase I. This is phase one of the improved parking facilities for the visiting public, many of whom are now unable to park at the Zoo on peak visitation days. The tentative plans will provide accurate layout, engineering analysis, and a phased construction program.

Design of the terraced parking will include underground parking areas in a ratio of one space on a terrace to two spaces in an underground structure. The total number of spaces will range from 1,500 to 2,200 cars. The higher number is the recommendation of the parking consultants in the Master Planning. There will be 140,000 square feet of the underground structure used to house the maintenance shops and warehousing operations, commissary, and police ready rooms. These operations are now scattered throughout the Park in crowded and inadequate quarters causing many control, supervision, and operation problems.

--Primate Exhibit and Development of Adjoining Rock Creek Valley -- \$100,000

Funds in the amount of \$100,000 are requested for tentative design of the Primate Exhibit to be located in Rock Creek Valley near the Calvert Street Bridge. This design will approximate a habitat environment for the primates currently housed in cramped, barred cages. These facilities will afford opportunities to rear family groups of primates and for behavioral research, which cannot be carried out in the present primate facilities. This amount is estimated to include tentative design work for Rock Creek bank protection and the required access road to permit a link-up between the Zoo trackless train and the Metro Station at Connecticut Avenue and Calvert Street.

--Elephant House -- \$100,000

An amount of \$100,000 is sought for design of the Elephant House exterior paddocks, modified interior treatment, and landscaping and walks. Included in this work are expanded exterior pachyderm paddocks, using water moats to confine the animals. Visitor viewing will be enhanced by the reduction of visual barriers, the widening of walks, and the inclusion of graphic educational material. Appropriate landscape development is also contemplated. Interior treatment will be limited to rehabilitation of animal doors and redevelopment of animal spaces. Attention will be given to improvement of interior appearances with strategically placed plant material and color treatment.

--Bird House Environs -- \$60,000

Funding of \$60,000 is sought for design of the waterfowl pond, crane yards, sanctuary, and walks and graphics. The waterfowl pond anticipated in this development will contain islands planted with ornamental grasses to create a habitat for the birds. The outdoor crane yards will be flanked by a pergola

through which visitors will walk to observe the birds in a garden setting. A sanctuary for observing native birds in a garden setting will, along with graphic educational material, develop and encourage viewers to have a greater awareness of native birds and their role in local environmental settings. Completion in time for the Bicentennial year is contemplated.

--Harvard Street Restaurant -- \$60,000

This new food handling facility is badly needed to replace the existing restaurant which was not designed to handle mass production of convenience foods required by the constantly increasing number of visitors to the Zoo. Design for this item would be through contract drawings and, with construction funding in a subsequent budget, would permit the new restaurant to be available for the Bicentennial year. The existing structure will serve as an interim visitor information center.

3. Repairs and Renovations (\$230,000)

An amount of \$230,000 is required to continue the program of renovation and repairs of existing facilities. This funding is required to keep the old part of the Zoo in use for the visiting public; for the care and comfort of the animals; and to keep the new buildings in good condition so that in the future the Zoo will not be faced with an overwhelming workload of repairs necessary to keep the buildings open. While priorities have not been established, it is planned to use these funds for the following projects:

- a. Insulation of steam lines in tunnel and extension of tunnel.
- b. Installation of heat exchangers at all buildings to convert steam into hot water.
- c. Replacement of Reptile House and Small Mammal House roofs.
- d. Repairs to stone retaining wall along the service road.
- e. Installation of air curtains at hoofed stock buildings.
- f. Miscellaneous electrical improvements including new transformers and distribution panels within buildings.

These renovation and repair projects will be accomplished, keeping in mind the Master Plan for the renovation of the Zoo and the projected life expectancy in relation to eventual replacement.

RESTORATION AND RENOVATION OF BUILDINGS

1972 Appropriation..... \$ 550,000
 1973 Appropriation..... \$5,014,000
 1974 Estimate..... \$1,220,000

An appropriation of \$1,220,000 is requested for the following projects in Smithsonian Institution facilities:

1. Mt. Hopkins, Arizona, Observatory road and power improvements	\$385,000
2. Silver Hill improvements and development	250,000
3. General building and facility repairs and improvements	315,000
4. National Museum of History and Technology Library addition planning	100,000
5. Conservation-Analytical Laboratory space preparations	50,000
6. Smithsonian Tropical Research Institute repairs and improvements	45,000
7. Smithsonian Facilities Master Plan	<u>75,000</u>
Total	\$1,220,000

Mt. Hopkins, Arizona, Observatory Road and Power Improvements

An appropriation of \$385,000 is requested for further road and power improvements.

With the \$120,000 appropriated in FY 1973, the Smithsonian Astrophysical Observatory has undertaken a major renovation of the electrical power system at its Mt. Hopkins, Arizona, Observatory, so that it will match the rapidly increasing observational potential of the installation. The Corps of Engineers has completed the first draft of its study of a power distribution improvement for the ridge and summit. It includes properly buried cable and lightning protection as well as provision for communications, data lines, and water pipes. After this draft is reviewed, and any necessary modifications made, bids will be invited for the first construction phase of this project. All this is expected to take place before the end of this current fiscal year. The initial construction contract will be let this year. The FY 1974 request of \$300,000 will complete the project of bringing safe and reliable electrical power to the mountain's summit.

The most dangerous sections of the Mt. Hopkins access road are being repaired and improved in FY 1973 with the \$100,000 appropriated. Plans call for continued improvement of hazardous sections of road in FY 1974 and following years. An appropriation of \$85,000 is requested for FY 1974. This work will be accomplished by the use of outside contractors as well as the use of temporary personnel with purchased materials. This project will require about five years for completion at a total cost of \$800,000.

Silver Hill Improvements and Development

An appropriation of \$250,000 is requested for the Silver Hill, Maryland, storage and restoration facility.

The Institution faces harsh pressures for additional storage and work space. Mall buildings are crammed to the rafters. Exhibits halls in buildings on the Mall have been removed from public use when absolutely necessary to house national collections. Loan programs intensify. Acquisition and retention practice is under active review at many levels. Material inventories are reduced, but growth and use of national collections exceed any limited gains from such measures. For partial relief, off-Mall storage options have been developed wherever feasible for housing materials requiring only limited access.

In 1970, a 96,000 square foot warehouse in the Federal Records Center in Alexandria was assigned to the Institution. It is now used by 14 Smithsonian bureaus and organizations. But on 10 March 1975, it becomes the exclusive property of the City of Alexandria as deeded to it by the U.S. Government. GSA assistance in finding equivalent space is being sought; however, no assurances of replacement have been received. The Institution must seek to cover its own needs to the greatest extent possible.

At Silver Hill the growing collections of the National Air and Space Museum require additional safe housing. Exhibits development for the forthcoming major new National Air and Space Museum on the Mall demands additional work space. Although the need for off-Mall storage will continue indefinitely beyond the opening of the new museum (only a small percentage of the study collection can be housed on the Mall), the years immediately ahead, FY 1974 and FY 1975, are critical for assuring effective development of the NASM curation, restoration, fabrication, and exhibit preparation. The Museum of Natural History must gain additional off-Mall storage space as soon as possible to manage effectively its immediate Mall space problems. Other Mall activities are pressed hard to relocate to off-Mall those of their activities that can be carried out effectively so placed. The Photographic Services Division's processing laboratory is a prime example. Centralized Office of Exhibits workshops is another.

All these needs speak to the value of the fullest use possible of remaining development options at the Institution's 21 acre Silver Hill (Suitland, Maryland) site for low-cost, temporary structures. Twenty-one structures, totaling 265,000 square feet, have been built at the site since 1953. An estimated additional development of 90,000 square feet of comparable configuration (low-cost, single-level structures) is practicable. For FY 1974 there is sought \$250,000 to achieve the next stages of improvement and development of the site. This will permit between 20,000 and 30,000 square feet of additional development for storage and work space through construction of simple, low-cost structures and modifications and additions to present structures--a level of development comparable to that of several earlier years. Site studies are underway to set the most efficient combination of renovation, extension, and construction of low-cost structures.

General Building and Facility Repairs and Improvements

An appropriation of \$315,000 is requested for several Smithsonian buildings and facilities to make improvements and repairs to prevent further deterioration, ensure public safety, enhance appearance, and facilitate the program operations of the research organizations, museums, and galleries using these spaces.

Fine Arts and Portrait Galleries Building

An appropriation of \$50,000 is required for the following projects:

--Landscaping of the courtyard, replacement and repair of the sidewalks, and the repair and reactivation of the two fountains. This work will complete the restoration of the courtyard which was curtailed during the building renovation due to lack of funds. The courtyard has a great aesthetic impact on the building and offers the opportunity for outdoor activities in a pleasing setting (\$25,000).

--Roof repairs are necessary to forestall deterioration of the structure as well as prevent damage to art treasures housed within the building. This necessary work was deferred from the previous renovation project and should be accomplished as soon as practical (\$25,000).

History and Technology Building

An appropriation of \$50,000 is requested for the following work:

--The installation of fire control systems has been planned to coincide with revisions of the exhibition halls to reduce the costs and length of time that an area will be out of public service. This program extends the fire control work which was done following the disastrous fire on the third floor of the building on September 30, 1970 (\$50,000). This is one increment of a five-year program estimated to cost \$250,000.

Smithsonian Institution Building

An appropriation of \$20,000 is sought for the following project:

--The repair of existing roadways, the installation of curbs, and the replacement of sidewalks to correct deteriorated conditions and surface drainage problems is required. The improved appearance and reduced possibility of pedestrian injuries due to faulty surfaces make this a most important project (\$20,000).

Freer Gallery of Art

An appropriation of \$15,000 is needed for the following work:

--Recurring blistering of roof covering and leakage around skylights and flashings cannot be economically combatted without removal of existing unsatisfactory materials and replacement with a heavy duty roof covering. This work is necessary for the preservation of the building and to remove any possibility of rain water damage to the irreplaceable objects in the collections (\$15,000).

Natural History Building

An appropriation of \$125,000 will be used for the following projects:

--The existing climate control systems utilize a single filtering media for the air intake systems. These filters cannot remove sufficient dirt particles to maintain satisfactory interior conditions since they only remove approximately 25 percent of atmospheric dust. The excessive dirt deposits cause deterioration of invaluable objects in the collections, require excessive clean-up efforts, and add to the cost of maintenance and operation of the building. This project involves the installation of a second filtering stage to the system which will reduce atmospheric dust by 85 percent and control the excessive dirt problem more efficiently. Modifications to the 10 existing air handling systems, installation of gauges and controls, and installation of high efficiency air filters will result in long term savings and provide improved environmental conditions for personnel, visitors, and the collections (\$40,000).

--The automatic fire control systems should be extended to public areas, reference collection areas, offices, and workrooms. This work has been planned as an incremental project to coincide with other alteration and exhibition changes that are programmed for the building. In this way a total coverage can be obtained after several years of continued work without disruption of ongoing activities. The project will improve the protection of museum objects, reduce the fire potential where burnable materials are present, and provide a significant improvement to the safety of the occupants of the building (\$25,000). This is the first increment of a \$500,000 program.

--It is important to convert existing space into more usable areas to accommodate pressing needs for office, research, and curation purposes in the

Natural History Building. These improvements will permit consolidation of activities with attendant increased efficiency, better coordination of internal programs, and adequate working conditions for the staff (\$60,000).

The project will include completion of an existing partial second floor level; installation of partitions; revisions of heating, ventilating, and air conditioning systems; installation of modern lighting, adequate electrical and communications systems, floor coverings, fire detection and security systems.

Anacostia Neighborhood Museum

An appropriation of \$25,000 will be used for the following work:

--The museum serves over 50,000 visitors each year with a wide variety of exhibits, classes, discussion groups, and other community participation services. The museum itself is a converted movie theatre. Classes and other programs are held in old neighborhood buildings not originally designed for heavy visitor use. Conditions in each of these buildings do not meet acceptable functional, environmental, or safety standards. An appropriation of \$25,000 is requested for electrical and plumbing work; roof, wall, and floor repairs; improved lighting; painting; and other work.

Chesapeake Bay Center for Environmental Studies

An appropriation of \$30,000 is requested for the following work:

--The Chesapeake Bay Center for Environmental Studies' (CBCES) pier on the Rhode River, while still having sound pilings, has deck planking which is gradually rotting. Most of the deck should be replaced to make the pier safer for vehicles (oil trucks, etc.) and personnel. In addition, the boat launching ramp needs to be widened and extended for ease and safety of launching and removing boats (\$9,000).

--The Poplar Island group, of which the Smithsonian owns two islands, is being eroded away by storms. Jefferson Island contains a lodge, caretaker's cottage, and numerous out-buildings and is valued at something over one million dollars. In order to start to protect this property from erosion, some bulkheading should be erected. The caretaker's cottage on this island is also in need of repairs. With aluminum siding and some internal renovation, this cottage would be expected to give additional years of service. The remote location of the island requires that it be self-contained. Electricity is generated by diesel generators. Two generators are required to assure a constant supply of electricity (which in turn runs pumps for water, radio service, etc.). One generator has been rebuilt this year and is now in good repair. The other generator is World War II surplus and should be replaced to assure the electric supply (\$9,000).

--The parking area at CBCES is frequently filled to overflowing with the increased popularity of the Center as a site for research and meetings of environmental groups. Expansion of the parking area cannot take place until temporary structures are moved, certain utility lines relocated, and the area graded and resurfaced (\$3,000).

--The main gate at CBCES needs to be replaced with a modern electronic gate. Currently the single gate from the main access road into CBCES is locked by a large padlock. Personnel wishing to enter the area at night or on the weekends must wait for the security guard to come to the entrance and unlock the gate. A modern electronic gate with entry to authorized personnel using a laminated magnetic card would free the security guard for patrols around the Center (\$2,000).

--Several existing structures at the Center are in need of routine maintenance. The main office/laboratory needs to be resurfaced and painted, the roof on one building needs painting, and the lock system in the main building needs to be converted from the home-type system currently being used to a system which allows the use of a single master key by authorized personnel and individual keys to personnel allowed into only certain areas of the building (\$7,000).

National Museum of History and Technology Library Addition Planning

An amount of \$100,000 is requested to finish architectural plans and specifications for construction of additional library space in the National Museum of History and Technology. The FY 1973 appropriation contained \$150,000 for the first stages of detailed planning. The steady growth of the NMHT collections and the intensification of the Museum's research programs have made its present library facilities and study areas inadequate to the needs of its staff and the many visiting scholars it receives each year. Thousands of rare and important books are in storage and totally inaccessible for research purposes. It is evident that this problem will become more severe in the years ahead. The Institution must provide for its solution.

In addition to this urgent general need, the Institution wishes to provide appropriate facilities for a great collection of rare books on the history of science and technology that may be offered as a gift. This collection has been appraised conservatively at substantially more than a million dollars. Its acquisition by the NMHT would greatly enhance the Museum's department of science and technology and establish the Smithsonian as a national center for the history of science and technology.

The original architect of the History and Technology Building has developed preliminary plans for a sixth-floor addition that would tastefully and economically meet both the overall requirements and the particular need for added library space. This additional \$100,000 would enable detailed plans and specifications to be made and also enable the Smithsonian to obtain an accurate estimate of construction costs.

Conservation-Analytical Laboratory Space Preparations

The Laboratory currently has its staff of 12, visiting interns, books, benches, shelving, and \$120,000 worth of scientific equipment multilayered into 2,600 square feet. The space is desperately overcrowded to the point of endangering museum objects under treatment. One other staff member occupies a corner of another office's workroom. Two additional interns have desks in the Underwater Laboratory.

It is now planned to acquire about 2,000 square feet of adjacent space to be relinquished by the Office of Exhibits by FY 1974. It will have to be re-equipped with: a fume extraction system, dust-proof ceilings, humidity control, sinks, water, properly located power supplies, resilient-tile floor covering, workbenches, matching lighting, and walls painted to compensate for lack of any windows.

With careful organization, this refurbished space will immediately relieve a badly over-crowded situation and may later house additional staff requested to begin correction of the deficiencies in the Smithsonian conservation program.

An appropriation of \$50,000 will accomplish this preparation.

Smithsonian Tropical Research Institute Repairs and Improvements

An appropriation of \$45,000 is requested for necessary repairs, improvements and enlargement of present facilities.

All buildings at Smithsonian Tropical Research Institute (STRI) are loaded to the rafters with people, labs, and materials. Simple enlargement and limited addition of work facilities where possible is the only practical course to accommodate the active uses of the place by ongoing programs in research and conservation, serving hundreds of participants from universities and labs from throughout the country.

At the same time that its buildings are over committed in terms of demand, the special costs of maintaining these buildings in the tropical environment must be borne. Despite modern methods of wood treatment, damage caused by termites,

ants, bat guano, and dry rot in the humid forest environment cannot be fully stopped. Use of insecticides is extremely hazardous to the research done by STRI, especially on the island. Future construction on the island will be mainly of concrete block, but restoration of already damaged buildings will be necessary over a period of several years until new structures can be built.

The appropriation request will permit limited accomplishment of these needs on a priority basis. This work will be accomplished by contractual services or by using existing staff labor. The funds requested will be used to purchase services, necessary supplies, and construction material.

Smithsonian Facilities Master Plan

An appropriation of \$75,000 is requested to undertake the study and development of a master plan for Smithsonian facilities in the Washington, D. C. area.

The Institution occupies 2.7 million square feet of net working space at 20 different sites in the Washington Metropolitan Area. Authorized programs, collections, work staffs, educational programs, research efforts, conservation efforts, support, protection, and maintenance needs consume this resource totally. Growing National Collections, now upwards of 70,000,000 in number, are predictable consumers of major volumes of additional space. The collections, of no value if not cared for, preserved, and made available for study and sharing, demand improved and expanded housing along with associated conservators, researchers, students, and concerned public. Bicentennial emphasis simply accelerates national interest in understanding the Nation's history through its artifacts. Environmental and social concerns intensify demands for mining the wealth of information possessed by the National Collections. These efforts demand new space. Short-term solutions, partial to some of the needs, have been practically exhausted.

Of the net working space cited above, 1.7 million feet are on the Mall; and it is with programs housed in the Mall structures that the principle growth requirement exists. Preserving space for enlightenment and education of the public, the highest priority for employment of Mall space, conflicts inevitably with growth of collections and their necessary work staffs. Something must give.

The alternatives are to seek short-term remedial relief again and again, or, instead, to establish a balanced program with each subsequent proposed construction effort, starting in the balance of the 1970s and continuing for the next immediate decades of national growth, fitting together into an overall logistical system. There appears no logical choice other than to move assemblies of collections and employees to an off-Mall support center coordinated with the most effective possible use of remaining on-Mall opportunities. The key to such efforts is to understand clearly the spatial and cost concomitants of interrelating the Institution's 40 separate bureaus, organizations, and services. Methods must be outlined and assessed for the most feasible and effective use of present and future space and the transfer of information and objects between sites. Study must be made of spatial relationships of acquisitions, accessions, preservation, conservation, exhibitions planning, development and maintenance, reference and research, and varied administrative and support activities. In effect, an overall logistical systems analysis must be made delineating the most efficient assemblies of activities on present and potential sites.

CONSTRUCTION

(Liquidation of Contract Authority)

1972 Appropriation.....	\$ 5,597,000	<u>1/</u>
1973 Appropriation.....	\$13,000,000	<u>2/</u>
1974 Estimate.....	\$27,000,000	<u>3/</u>

The Act of August 12, 1946, established the National Air Museum as a bureau of the Smithsonian Institution. The Congress included provisions for selecting a site for a National Air Museum building to be located in the Nation's Capital. By the Act of September 6, 1958, the Congress designated a site for a building to be on the Mall from Fourth Street to Seventh Street, Independence Avenue to Jefferson Drive. Public Law 89-509 in 1966 authorized the construction of the National Air and Space Museum. At that time approved plans were developed for the building's construction at a cost of \$40 million but actual appropriations and construction were held up by Southeast Asia military expenditures.

In order to keep the costs of this major new museum building at \$40 million, the Smithsonian Institution requested and was appropriated \$1,900,000 in FY 1972 to redesign this National Air and Space Museum. This new design was approved by the Commission of Fine Arts on May 17, 1972, and the National Capital Planning Commission on September 7, 1972. In FY 1973 \$13,000,000 was appropriated for the National Air and Space Museum plus \$27,000,000 in contract authority. It is requested that \$27,000,000 be appropriated in FY 1974 to liquidate the balance of the contract authority.

Excavation for the building is well underway and the foundation work has been started. Bids have been awarded for the structural steel, marble, foundations, metal decks, electrical and mechanical systems, skylights, window walls, elevators, and roofing. By the spring of 1973 contracts for the entire project will have been awarded. This means, that except for a small reservation and a contingency fund, most of \$41,900,000 will have been obligated. The project is now on schedule with expected substantial completion in late summer of 1975 ready for the installation of exhibits and a target opening date of July 4, 1976. Annual attendance of six million visitors is expected to this major new center of exhibition, exposition, and education in the history, science, and technology of man's air and space explorations.

1/ FY 1972 \$3,697,000 was appropriated toward the liquidation of contract authority for the Joseph H. Hirshhorn Museum and Sculpture Garden and \$1,900,000 for planning the National Air and Space Museum.

2/ \$40,000,000 was authorized in contract authority for the National Air and Space Museum of which \$13,000,000 was appropriated.

3/ Liquidation of balance of contract authority.

SMITHSONIAN VISITORS
(By fiscal year)

Fiscal Year	Smithsonian Institution Building	Arts and Industries Building	Museum of Natural History	National Air & Space Building	Freer Gallery of Art	Museum of History & Technology	Fine Arts & Portrait Gallery	Renwick Gallery	Total ^{9/}
1961	1,024,526	2,912,371	2,047,973	987,858	130,746	(1)	(3)	(10)	7,103,474
1962	1,222,112	3,471,050	2,113,053	1,986,319	130,597	(1)	(3)	(10)	8,923,131
1963	1,630,280	3,534,182	2,288,397	2,673,618	183,359	(1)	(3)	(10)	10,309,836
1964	1,311,061	2,457,243	2,512,306	1,854,186	168,625	2,509,774 ^{1/}	(3)	(10)	10,813,193 ^{2/}
1965	1,065,635	2,028,175	3,051,472	1,705,683	210,972	5,091,776	(3)	(10)	13,153,713
1966	870,010	1,746,715	2,988,006	1,494,922	222,089	4,829,112	(3)	(10)	12,150,854
1967	1,020,312	1,638,873	3,409,957	1,484,422	212,920	5,546,102	(3)	(10)	13,312,586
1968	847,176 ^{5/}	1,344,622	3,257,957	1,123,698	169,533	4,750,023	30,888	(10)	11,523,897 ^{4/}
1969	275,259 ^{5/}	1,493,141 ^{6/}	2,916,749	1,225,959	179,374	4,174,071	166,177	(10)	10,430,730 ^{7/}
1970		2,557,155 ^{5/}	3,269,791	1,839,373	217,305	5,483,555	216,523	(10)	13,583,702 ^{8/}
1971	681,255	1,985,732	3,456,755	1,337,445	190,425	5,955,128	194,468	(10)	13,801,208
1972	819,617	2,306,071	3,414,640	1,104,151	230,475	6,808,526	246,657	105,186	15,035,323

1/ Museum of History and Technology opened January 1964

2/ July-August 1964, certain Smithsonian Institution buildings were open 4:30 to 10 p.m. for the first time.

3/ National Collection of Fine Arts opened May 1968 and the National Portrait Gallery in October 1968.

4/ Reflects the significant decrease in visitors to the Nation's Capital in the first six months of CY 1968 due to unsettled local conditions.

5/ Building closed for renovation October 1968.

6/ Since the first display of the lunar sample in September 1969, visitors to this building have averaged approximately 270,000 per month.

7/ Fiscal year 1969 visitor totals represent the effect of local conditions in late 1968 on visitor attendance. During CY 1969, a total of 12,438,909 visitors came to the Smithsonian, an increase of 25 percent over CY 1968.

8/ Reflects a significant increase of 30 percent in visitors to the Smithsonian's Museums and Galleries.

9/ An additional 5,000,000 visitors to the National Zoological Park annually and 50,000 to the Anacostia Museum are excluded from these totals.

10/ Renwick Gallery opened January 1972.

ZOO RENOVATION

Dr. RIPLEY. We are planning construction, restoration, and renovation of buildings and facilities. As you know, Mr. Chairman, we are very anxious to proceed with the renovation program at the zoo after a hiatus of some years. Many of the zoo's buildings and facilities date back to the very earliest years of this century and are now very much out-moded.

On the other hand we have this wonderful collection of animals on view and the huge public visitation. As Dr. Reed will explain later on I am sure, we have a budget request for planning, construction, and repairs at the zoo totaling \$3,850,000.

We have a request for \$1,220,000 for restoration and renovation of other buildings and facilities of the Institution, which we will itemize. And, finally, we have this large bulk item of \$27 million for liquidation of contract authority for the construction of the National Air and Space Museum.

I will be happy to detail any of these if you wish at this time.

Senator BIBLE. Well, I think probably you will be calling on Dr. Reed for the Zoological Park justification, and undoubtedly Mr. Collins on the National Air and Space Museum.

Dr. RIPLEY. I would be happy if I might, to itemize the request for other Smithsonian facilities and improvements.

STATUS OF RESTORATION AND RENOVATION OF BUILDINGS

Senator BIBLE. I presume the decrease in the restoration and renovation program is attributable to the \$3.4 million we appropriated last year for the Arts and Industries building. We trimmed that project by \$145,000. Are you getting the job done within that limitation?

Mr. BROOKS. We are in the design phase for the Arts and Industries project and our plans are being developed to limit the project costs to the \$3,355,000 appropriated in fiscal year 1973.

Senator BIBLE. What is the status of the other projects that were reduced in your 1973 appropriations? Are you requesting additional funds for any of them?

Mr. BROOKS. The Institution is requesting the \$100,000 that were cut last year from the National Museum of History and Technology library planning. This is to complete the planning effort now underway that was initiated with the \$150,000 appropriated.

This year funds were requested for a master plan so the idea of feasibility studies on parking and a Natural History Research Center have been put aside.

A new facility for visiting scientists at the Chesapeake Bay Center was not begun.

Senator BIBLE. Highlight your 1974 program for restoration and renovation.

MOUNT HOPKINS, ARIZ., OBSERVATORY

Dr. RIPLEY. This request covers buildings on the Mall or adjacent to it and outlying facilities, such as the improvement program at Mount Hopkins, Ariz., where we have our observatory. In this case we wish to complete the road up to the observatory.

Senator BIBLE. What is the status of that observatory? I know this item has been before us for a number of years now. Give us the status report on the Mount Hopkins, Ariz., Observatory.

Dr. RIPLEY. In 1965, it was determined that the atmosphere in the adjacent State of New Mexico, where we had a small observation station, was poor. That is, there was an overcast and a good deal of smog.

Senator BIBLE. You don't mean an intolerant atmosphere of any kind, you mean a celestial atmosphere?

Dr. RIPLEY. Yes; a celestial atmosphere.

Senator BIBLE. There are all kinds of atmospheres that we work in nowadays, and I just wanted to be sure that we had that clear. You are talking about an atmosphere as we understand it in the physical sense?

Dr. RIPLEY. Yes. So, we had a committee help us choose a site in Arizona on a mountaintop, which was adjacent to facilities at the University of Arizona and offered a good deal of clarity in the atmosphere. We have proceeded with congressional authorization ever since then in the development of an astronomical and astrophysical observatory which would serve not only our own scientists in our observatory, but adjacent universities and scientists across the Nation.

Over the years we have gradually built this up so that we now have significant operational work going on there with a telescope and other equipment making observations that are of great importance.

Senator BIBLE. This is right at Mount Hopkins?

Dr. RIPLEY. It is right on the top of Mount Hopkins.

Senator BIBLE. How can you get to the top if you don't have a road?

IMPROVEMENT OF MOUNT HOPKINS ACCESS ROAD

Dr. RIPLEY. We have a very rough road. It is an extremely steep mountain and pretty tough to get up, and we have been working on it for a considerable amount of time. And we need \$385,000 to complete this road.

I have an illustration of what the mountain looks like.

Senator BIBLE. Give us a copy of your photograph at least, because there may be members of the committee who ask you why you need that much money for a road. We have frozen almost all the road construction for forest roads and trails and for highways, and somebody may take a dim view of building a road to an observatory when we can't build a road to connect our cities.

Dr. RIPLEY. Well, we feel that the efficiency of this observatory for which we have been receiving continual support from the Congress, really requires that we must improve the road for safety and efficiency.

Senator BIBLE. All right, the picture will accompany your presentation. Is the observatory completed now?

Dr. RIPLEY. It is completed virtually, with the exception of the multimirror telescope which we are working on completing within already budgeted funds.

Senator BIBLE. What is the total cost of the Mount Hopkins Observatory to date?

Dr. RIPLEY. We will have to supply that figure for the record, Mr. Chairman.

[The information follows. Total operating costs appear on p. 537.]

MT. HOPKINS OBSERVATORY
DEVELOPMENT AND PROJECT COSTS
(in \$000)

Fiscal Year	Source	60-Inch Telescope	Baker-Nunn Laser	Gamma Ray	Atmospheric and Environmen. Science Pgm.			Multi Mirror Telescope	Special Projects	Site Devel- opment	General Support	TOTAL
1967	Federal Private Total		6 209 215	211 211						139 139	43 43	399 209 608
1968	Federal Private Total	38 38	95 144 239	137 137						12 12	23 23	305 144 449
1969	Federal Private Total	283 283	92 92	43 43		3 39 42	7 7				71 71	407 131 538
1970	Federal Private Total	191 191	93 93	55 55		1 129 130	5 5			29 29	72 45 117	324 313 637
1971	Federal Private Total	80 15 95	96 96	62 62		8 65 73				16 4 20	41 85 126	207 307 514
1972	Federal Private Total	67 14 81	59 160 160	59 8 67		25 24 49	509 509			108 108	91 104 195	859 357 1216
1973	Federal R and R Private Total	57 57	92 92	63 4 67		17 22 39	722 722			220 220	130 139 269	989 220 1466
Total Federal		716	101	630		54	1243			275	471	3490
Total R and R										220		220
Total Private		29	886	12		279	1243		106	33	373	1718
GRAND TOTAL		745	987	642		333	1243		106	528	844	5428

EMPLOYEES AT MOUNT HOPKINS OBSERVATORY

Senator BIBLE. How many people will be employed for the observatory? I suppose it is a very small employment?

Mr. BROOKS. The figure is approximately 10 Federal employees.

Senator BIBLE. Where do they live?

Mr. BROOKS. They live in various parts of the area, some of them at the base of the mountain, Mr. Chairman, and others in the communities around.

Senator BIBLE. When will the observatory be fully operational?

Mr. BROOKS. With the present schedule, Mr. Chairman, for the multimirror telescope, we anticipate that it will be completed and in operation by 1976.

Senator BIBLE. If I were to go to Mount Hopkins Observatory today, what could I see?

FACILITIES AT MOUNT HOPKINS

Mr. BROOKS. The installations that you could see there now, Mr. Chairman, are a 60-inch telescope, a 10-meter gamma-ray reflector, a Baker-Nunn camera for satellite tracking, laser equipment, and an environmental sciences observation station. Those are the several operational facilities on the top, on the ridge now.

Senator BIBLE. I know, but what could I find looking up in the sky? How far will it probe and what will I see?

Mr. BROOKS. We could furnish that for the record.

Senator BIBLE. All I am trying to do is just find out what a roaming reporter might find if he went to the top there to see what they had for all of their dollars. What would he see?

Mr. CHALLINOR. They will see a magnificent 60-inch telescope within a dome; they would see this Baker-Nunn camera which would allow you to photograph a balloon 12 feet in diameter and 1,000 kilometers high. These balloons and other satellites that come across are what they are using to map the earth.

Senator BIBLE. Can I look through these telescopes if I go up there?

Mr. CHALLINOR. Oh, yes.

Senator BIBLE. It is operational?

Mr. CHALLINOR. Yes, sir, the telescope is operational, the camera is operational, the gamma-ray reflector is operational. The latter is a large crib or parabola which is focused at different sources of energy in the sky to try and determine the sources of this energy. They are not visible light sources, they are energy sources.

Senator BIBLE. What is it that you are going to add to it to get it done by 1976? What will that do that isn't being done now?

MULTIPLE MIRROR TELESCOPE

Mr. CHALLINOR. This will be the third largest telescope in the world, a multiple mirror telescope. The contract is let. This will be located about 900 feet above the present optical telescope, the 60-inch one which is on a flat area just under the peak of the mountain. We need to get the road built to the very top of the mountain and over into a slightly flat canyon there near the top which is protected from the wind. This telescope, which we anticipate opening in 1976 and which we also estimate will cost about \$4 million, will be the equivalent

of a 176-inch conventional telescope. The National Science Foundation at Kitt Peak, which is about 70 or 80 miles away, is just putting into operation a 158-inch conventional telescope, which cost about \$10 million. We will get a more powerful telescope for \$4 million using a completely new technique.

Senator BIBLE. A more powerful telescope; now what will you see additionally? I don't suppose you know yet until you get the telescope?

Mr. CHALLINOR. We will see objects that are faint and hard to see with other telescopes. It will advance our knowledge of the universe.

Senator BIBLE. How far away can you see now?

Mr. CHALLINOR. We have seen virtually to the edges of the universe.

Senator BIBLE. How far is that?

Mr. CHALLINOR. I would have to furnish that for the record, Mr. Chairman. We are talking in terms of hundreds of millions of light-years away.

Senator BIBLE. Now, what is a light-year?

Mr. CHALLINOR. The distance light travels in 1 year at a rate of 186,000 miles per second.

Senator BIBLE. I suppose that makes us all feel a little insignificant, doesn't it?

Senator STEVENS. What is the real need for that telescope when you have the other one just 60 miles away?

JUSTIFICATION FOR THE MULTIPLE MIRROR TELESCOPE

Mr. CHALLINOR. The reason why we are building the multiple mirror telescope is that it would be more powerful. It would also be located about 2,000 feet higher than the National Science Foundation telescope, and being more powerful, we would be able to see more things at the edge of the universe. It is built on a completely different concept.

Instead of grinding one huge lens, we are in effect making six telescopes, each 72 inches in diameter, and then concentrating the light from all these six into one central cylinder, which will give us the equivalent of a telescope of 176 inches.

Thus we feel we now have the optical technology to allow us to do this, and this is the first time that this has been tried on a scale this large.

We have made similar prototype models somewhat smaller. We are opening up a whole new field, in other words, of optical telescopes. This will also be the largest infrared telescope in the world.

Senator STEVENS. Who will use it?

Mr. CHALLINOR. This will be used by all the astrophysical community in the country with priority for the Smithsonian Astrophysical Observatory, and the University of Arizona observers as this is a joint project with the University of Arizona.

Senator STEVENS. Who is using the National Science Foundation telescope?

Mr. CHALLINOR. That is also being used by the astrophysical community of the entire country. It is an open facility exactly as this one will be.

Senator STEVENS. Thank you.

Senator BIBLE. After you get this all done after an additional cost of a million or whatever, it will cost you x million to date and you will still only be third. Who is first?

Mr. CHALLINOR. Presently the largest operating telescope is the Hale telescope at Palomar Mountain in California, which is 200 inches, but the Russians may soon complete one larger.

They have been trying to build a telescope with a single lens in excess of 200 inches; but to the best of our information, they have already cracked two or three lenses. In other words, they are reaching the size of the lens, that the lens itself can't support its own weight. So, as telescopes need to get bigger and bigger, we are going to have to try different techniques; and this is why we are using the complex of six separate 72 inch concave mirrors to collect the light and then focus it into a central tube.

We are evidently reaching the maximum size of telescope at around 200 inches, which we now have at Mount Palomar.

Senator BIBLE. You are not jealous of California, are you, being first? They claim they are the largest in population in the Nation. They claim they are first in a lot of other things. I guess if they want to be first in having the largest telescope, that wouldn't be any great loss to the United States, would it?

I have always been a little puzzled over why we are always trying to build bigger telescopes all within the Nation; this isn't a competitive thing.

Mr. CHALLINOR. No, sir, but there is a great demand for telescope facilities. We will be able to build this telescope for \$4 million where one slightly smaller cost \$10 million under the conventional system.

Senator BIBLE. How many telescopes are you planning on building?

Mr. CHALLINOR. This is the only one we are now planning. I imagine, Mr. Chairman, that there is an insatiable demand on the part of all the astrophysicists.

Senator BIBLE. How many astrophysicists are there in the United States?

Mr. CHALLINOR. I would say there are probably less than 1,000 practicing astrophysicists that are now waiting in line for the big telescopes. They have to book time, in effect, months in advance for their own observations. They calculate observations in advance, and then they have observation time on different telescopes, and they go in to the computers. They know exactly what they want to look at, and they are allowed an hour, say, at some specific time.

Senator BIBLE. I am sure there is a great demand by these scientists and the astronomers, but we have lots of other demands on us as well, and I am just wondering where you would fit that in in the large-scale priorities.

COST OF OPERATING MOUNT HOPKINS, ARIZ, OBSERVATORY

What is the total cost of operating the Mount Hopkins, Ariz., Observatory?

Mr. CHALLINOR. I would have to break that down. I would also like to provide for the record a more complete status report on Mount Hopkins showing some of its activities and accomplishments and the reason for the multiple mirror telescope.

Senator BIBLE. It can be supplied for the record.

[The information follows.]

STATUS REPORT ON MT. HOPKINS INSTRUMENTATION AND RESEARCH

The Mt. Hopkins, Arizona, Observatory of the Smithsonian Astrophysical Observatory (SAO) has been operational since 1968. Unlike other mountain observatories which concentrate solely on optical astronomy, the Mt. Hopkins Observatory is a multi-purpose facility using a wide range of instruments for research that includes gamma ray, cosmic ray, optical, and infrared astronomy as well as geophysics. Observations made from space vehicles above the earth's obscuring atmosphere have revealed a wealth of strange objects and have revolutionized man's concept of the universe. To fully understand these new objects (pulsars, x-ray stars, black holes) further studies are required at all wavelengths including those accessible to the ground-based observer. Observations made above the atmosphere must be supplemented by those from the ground if the complete picture is to be derived.

The 60-inch Tillinghast reflector telescope at Mt. Hopkins is a first-class instrument ideally suited to making some of these observations. It has been acknowledged by its users to be one of the finest instruments of its class in the world. Using the most sophisticated optical techniques, detailed studies are made of the planets, stars and galaxies. Intensity and color measurements of many thousands of stars in our galaxy and of the planets in our solar system have been made. Observations of the nearby planets are particularly important now that detailed close-up pictures are available from the recent fly-by missions. Ground-based observations, although they lack the spatial resolution of those from space probes, can by detailed spectral (wavelength) resolution complement the space observations by providing a chemical analysis of the atmospheres of the planets. Recently observations made at Mt. Hopkins have revealed the presence of oxygen in the atmosphere of Mars and thus give a new insight into the nature of this planet.

One of the outstanding contributions of space research has been the discovery of x-ray sources; these sources are studied extensively at optical and infrared wavelengths of Mt. Hopkins. Infrared observations are also used to study cool stars which are believed to be stars in their birth process. Since the prime energy source in stars is thermonuclear, stellar studies provide a better understanding of the energy release mechanism and may ultimately lead to the utilization of this important energy process for power generation on earth.

One of the most perplexing problems in astrophysics is the origin of cosmic radiation, the extremely penetrating radiation that bombards the earth and appears to pervade the universe. The 10-meter gamma-ray telescope at Mt. Hopkins is a unique instrument that has been used to locate the first celestial source of these radiations. It is in the Crab Nebula, the remains of a star that exploded 900 years ago. This instrument is the world's only ground-based observing facility dedicated to cosmic gamma-ray research. SAO scientists have recently adapted a stellar interferometer in Australia for use as the Southern Hemisphere complement to the 10-meter dish.

The quality of an astronomical observation is only as good as the atmosphere through which the observation is made. For this reason an extensive program of atmospheric studies has been conducted at Mt. Hopkins;

these environmental studies enable the best observing conditions and situations to be identified and in addition have provided a sensitive method of monitoring pollutants in the upper atmosphere.

The satellite-tracking facility, employing both photographic and laser-ranging techniques, is part of SAO's unique world-wide network of such stations devoted to studies of the upper atmosphere, and earth and ocean physics. With support from NASA this research seeks an understanding of the earth's rotational and crustal motions. Highly accurate measurements of the earth's size and crustal motions have been made.

The multiple-mirror telescope now under development is an important advance in two areas: instrument design and ground-based infrared astronomy. Pioneering a new concept in telescope design, the MMT will test the feasibility of building telescopes far larger than anything possible with conventional design. Larger instruments of the future will be more efficient--catching more light in a shorter time--and more powerful--allowing the astronomer to study fainter and more distant objects.

The MMT is also being designed for use in the infrared thus opening new vistas to the astronomical community. Light in this long-wavelength portion of the spectrum is absorbed by water vapor in the atmosphere, so it is important to locate the telescope on a mountaintop high enough to be above most of the water vapor but not so remote as to make access difficult.

[The information referred to on p. 531 follows.]

TOTAL OPERATING COST, FISCAL YEAR 1973, MOUNT HOPKINS, ARIZ., OBSERVATORY

[In thousands of dollars]

Source	60-inch telescope	Baker-Nunn laser	Gamma ray	Atmospheric and environmental science program	Multimirror telescope	General support	Total
Federal.....	57		63	17	722	130	989
Private.....		92	4	22		139	257
Total.....	57	92	67	39	722	269	1,246

AMOUNT DEVOTED TO ASTROPHYSICS

Senator BIBLE. What is the total amount, Dr. Ripley, that you devote to astrophysics, or to astronomy?

Dr. RIPLEY. Our base this year, 1973, is \$2,999,000 for the Astrophysical Observatory.

Senator BIBLE. Is that a fairly constant figure over the last several years?

Dr. RIPLEY. No; it has been increasing with personnel and other benefit costs. We have not been adding large numbers of personnel. We conduct research in concert with Harvard and a consortium of other universities, including the University of Arizona. Many of the joint staff, of course, are employed by other persons or employed on grants.

It is one of the two or three largest observatories of its kind. We have just been able to attract an outstanding astrophysicist, Dr. George Field, to be its new director because of the retirement of our former director, Dr. Whipple.

We must maintain a relative positive posture in astrophysics at this time of scientific austerity in declining funds. So, we are requesting only a small increase, \$109,000, to our base this year.

We are requesting funds essentially for the increase in pay and costs and other ancillary services. We feel that this new observatory that we are speaking about, this new telescope, is going to be a breakthrough in world science, that it is well worth supporting and of extreme value. It is a cut-rate priced telescope which is going to astonish the world of science, I believe. And, it is a very high priority for us.

AMERICAN OBSERVATORIES AND HOW FUNDED

Senator BIBLE. Supply for the record a list of all the observatories in the United States and how they are funded. Are they funded out of the Federal dollar, private dollar, State dollar, or a combination of dollars?

Dr. RIPLEY. We would be very glad to.

[The information follows:]

LIST OF U.S. ASTRONOMICAL INSTITUTIONS - ACADEMIC & NON-ACADEMIC

Included are American Observatories, various Departments in American Universities, and some Sections or Divisions of other Laboratories that engage in Astronomical Research. The list should not be assumed to be exhaustive; apologies are offered for omissions - major or minor.

ACADEMIC

Northern Arizona University - Dept. of Physics and Astronomy
 University of Arizona - Dept. of Astronomy
 University of Arizona - Lunar & Planetary Laboratory
 University of Arizona - Optical Sciences Center
 California Institute of Technology - Dept. of Astronomy
 California Institute of Technology - Div. of Physics
 California Institute of Technology - Kellogg Radiation Laboratory
 California Institute of Technology - Lawrence Radiation Laboratory
 California State College at Long Beach - Dept. of Physics and Astronomy
 Pomona College - Physics Department
 San Diego State College - Dept. of Astronomy
 San Fernando Valley State College
 Stanford University - Institute for Plasma Research
 Stanford University - Radio Astronomy Institute
 Stanford University - Center for Radio Astronomy
 University of California at Berkeley - Dept. of Astronomy
 University of California at Berkeley - Dept. of Physics
 University of California at Berkeley - Space Science Laboratory
 University of California at Berkeley - Statistical Laboratory
 University of California at Los Angeles - Dept. of Astronomy
 University of California at San Diego - Dept. of Physics and Astronomy
 University of California at Santa Cruz - Dept. of Astronomy/Astrophysics
 University of Southern California - Dept. of Astronomy
 University of Colorado - Joint Institute for Laboratory Astrophysics
 University of Colorado - Dept. of Astronomy-Geology
 University of Colorado - Dept. of Physics and Astronomy
 Connecticut College - Dept. of Physics and Astronomy
 Trinity College - Dept. of Physics and Astronomy
 Wesleyan University - Dept. of Astronomy
 Yale University - Dept. of Astronomy
 Georgetown University - Dept. of Astronomy
 University of Florida - Dept. of Physics and Astronomy
 University of Southern Florida - Dept. of Astronomy
 Agnes Scott College - Dept. of Physics and Astronomy
 University of Georgia - Dept. of Physics and Astronomy
 Vald State College - Dept. of Physics and Astronomy
 Hawaii Institute for Astronomy
 Northwestern University - Dept. of Astronomy
 Southern Illinois University - Dept. of Physics and Astronomy
 University of Chicago - Dept. of Astronomy and Astrophysics
 University of Chicago - Dept. of Physics
 Laboratory for Astrophysics and Space Research - Chicago
 University of Illinois - Dept. of Astronomy
 Wheaton College - Dept. of Physics and Astronomy
 Earlham College - Dept. of Physics and Astronomy
 Indiana University - Dept. of Astronomy
 St. Ambrose College - Dept. of Physics and Astronomy
 University of Iowa - Dept. of Physics and Astronomy
 Kansas State University - Physics Department
 University of Kansas - Dept. of Physics and Astronomy
 Washburn University of Topeka - Dept. of Physics and Astronomy
 Murray State University - Dept. of Physics and Astronomy
 University of Kentucky - Dept. of Physics and Astronomy
 Western Kentucky University - Dept. of Physics and Astronomy
 Louisiana State University - Dept. of Physics and Astronomy
 Bowdoin College - Dept. of Physics and Astronomy
 University of Maine - Dept. of Physics and Astronomy
 Colby College - Dept. of Physics and Astronomy

Goucher College - Dept. of Physics and Astronomy
 University of Maryland - Dept. of Physics and Astronomy
 Boston University - Dept. of Astronomy
 Brandies University - Dept. of Physics
 Harvard University - Dept. of Astronomy
 MIT - Center for Space Research
 MIT - Dept. of Earth & Planetary Sciences
 MIT - Lincoln Laboratory - Haystack Research Facility
 MIT - Dept. of Physics
 University of Massachusetts & 5 College Consortium - Astronomy Dept.
 Wellesley College - Dept. of Astronomy
 Wheaton College - Dept. of Physics and Astronomy
 East Michigan University - Dept. of Physics and Astronomy
 Michigan State University - Dept. of Astronomy
 University of Michigan - Dept. of Astronomy
 Carleton College - Dept. of Physics and Astronomy
 Macalaster College - Dept. of Physics and Astronomy
 University of Minnesota - Dept. of Physics and Astronomy
 University of Mississippi - Dept. of Physics and Astronomy
 University of Southern Mississippi - Dept. of Physics and Astronomy
 Central Methodist College - Dept. of Physics and Astronomy
 Park College - Dept. of Physics and Astronomy
 University of Montana - Dept. of Astronomy
 Doane College - Dept. of Physics and Astronomy
 University of Nevada at Las Vegas - Dept. of Physics and Astronomy
 Belknap College - Dept. of Physics and Astronomy
 Dartmouth College - Dept. of Physics and Astronomy
 Princeton University - Dept. of Astrophysical Sciences
 Princeton University - Dept. of Physics
 Trenton State College - Physics Department
 New Mexico Institute of Mining & Technology - Dept. of Physics and Geophysics
 New Mexico State University - Department of Earth Science and Astronomy
 University of New Mexico - Dept. of Physics and Astronomy
 Colgate University - Dept. of Physics and Astronomy
 Columbia University - Dept. of Astronomy
 Cornell University - Astronomy Department
 H.H. Lehman College of City College of New York - Dept. of Physics & Astronomy
 Hunter College of the City College of New York - Dept. of Physics & Astronomy
 Rensselaer Polytechnic Institute - Dept. of Physics and Astronomy
 State University of New York at Albany - Dept. of Astronomy & Space Science
 State University of New York at Binghamton - Dept. of Physics and Astronomy
 State University of New York at Brockport - Physics Department
 State University of New York at Buffalo - Dept. of Physics & Astronomy
 State University of New York at Stony Brook - Dept. of Earth and Space Science
 Vassar College - Dept. of Physics and Astronomy
 University of Rochester - Dept. of Physics and Astronomy
 Case Western Reserve University - Dept. of Physics
 Case Western Reserve University - Department of Astronomy
 Denison University - Department of Physics and Astronomy
 Mount Union College - Dept. of Physics and Astronomy
 Ohio State University - Dept. of Astronomy
 Ohio State University - Dept. of Electrical Engineering
 Otterbein College - Dept. of Physics and Astronomy
 University of Cincinnati - Dept. of Astronomy
 University of Toledo - Dept. of Physics and Astronomy
 Youngstown State University - Dept. of Physics and Astronomy
 University of Oklahoma - Dept. of Physics and Astronomy
 Lewis & Clark College - Dept. of Physics and Astronomy
 University of Oregon - Dept. of Physics
 Dickinson College - Dept. of Physics and Astronomy
 Haverford College - Dept. of Astronomy
 Lehigh University - Physics Department
 Pennsylvania State University - Dept. of Astronomy
 Swarthmore College - Department of Astronomy
 University of Pennsylvania - Department of Astronomy
 University of Pittsburgh - Allegheny Observatory
 Villanova University - Dept. of Astronomy

Brown University - Dept. of Astronomy
 University of South Carolina - Dept. of Physics and Astronomy
 University of Tennessee - Dept. of Physics and Astronomy
 University of Tennessee - at Chattanooga - Dept. of Physics and Astronomy
 Vanderbilt University - Dept. of Physics and Astronomy
 Pan American College - Dept. of Astronomy
 University of Texas at Austin - Dept. of Astronomy
 William March Rice University - Dept. of Physics and Space Science
 Brigham Young University - Dept. of Physics and Astronomy
 Marlboro College - Dept. of Physics and Astronomy
 University of Virginia - Dept. of Astronomy
 University of Washington - Dept. of Astronomy
 Beloit College - Dept. of Physics and Astronomy
 University of Wisconsin - Dept. of Astronomy
 Wisconsin State University of Oshkosh - Dept. of Physics and Astronomy
 Wisconsin State University at Stevens Point - Dept. of Physics and Astronomy

NON-ACADEMIC

Marshall Space Flight Center - Space Science Laboratory
 Kitt Peak National Observatory
 Lowell Observatory
 Aerospace Corporation - Space Physics Laboratory
 NASA - Ames Research Center - Space Science Division
 Jet Propulsion Laboratory, Space Science Division
 Lockheed Solar Observatory
 San Fernando Observatory - Solar Physics Department
 Boulder Laboratories - ESSA/ITSA
 National Center of Atmospheric Research
 Carnegie Institute - Department of Terrestrial Magnetism
 NASA - Chief of Astronomy
 National Bureau of Standards - Office of Standard Reference Data
 U.S. Naval Observatory
 U.S. Naval Research Laboratory
 Goddard Space Flight Center - Laboratory of Space Science
 Air Force Cambridge - CRPA Research Laboratory, Radio Astronomy Branch
 American Science and Engineering, Incorporated
 Smithsonian Astrophysical Observatory
 Cransford Hill Laboratory- Bell Telephone Laboratories
 Institute for Advanced Study
 Los Alamos Scientific Laboratory
 Sacramento Peak Observatory
 Bartol Research Foundation
 Arecibo Observatory
 Oak Ridge National Laboratory
 NASA- Manned Space Craft Center
 NASA- Langley Research Center
 National Radio Astronomy Observatory
 Boeing Science Research Laboratory.

Our sources for this information include National Academy of Sciences, National Science Foundation, and Astrophysics and Astronomy in the '70's. Information on the individual observatories sources of funding was not available to the Smithsonian. However, we were able to obtain data from Volume II of the book Astrophysics and Astronomy in the '70's. The book will be in print after April 9, 1973.

Here are the dollar amounts for the above institutions.

	<u>Federal</u>	<u>Private & State</u>
FY 69	292 million	32 million
FY 70	208.9 million	28 million
FY 71	215.8 million	33.4 million
FY 72	194.7 million (est.)	38 million (est.)

These Federal monies are distributed to the above 174 institutions engaged in astronomical research. It must be noted, however, that close to 75% of the total Federal monies spent has been for NASA.

SILVER HILL FACILITY

Senator BIBLE. I had always understood that this intriguing and fascinating field of astronomy was pretty much privately endowed, but maybe I am wrong.

Your Silver Hill facility: You have told us about this a number of times.

Dr. RIPLEY. We need \$250,000 to help develop this facility for storage and restoration. We are particularly anxious to improve our techniques and abilities in the restoration and conservation area. Other items in this budget request include \$100,000 to finish our plans and specification for the library for the National Museum of History and Technology.

Senator STEVENS. Before we go any further, would you tell us how long that road is?

Dr. RIPLEY. How long the road is?

Senator BIBLE. The Mount Hopkins Observatory.

Mr. BROOKS. The Mount Hopkins Observatory Road, Senator Stevens, is approximately 14 to 17 miles as it presently stands.

Senator STEVENS. Thank you.

Senator BIBLE. You may proceed.

Dr. RIPLEY. We also have various budget items in the Smithsonian buildings to make improvements and repairs to prevent deterioration, insure public safety, enhance appearance, and facilitate the program operations, totaling \$410,000. And finally, funds are requested to support the study and development of a master plan for the Smithsonian facilities in the Washington area, \$75,000. And I have already mentioned the large request for the Air and Space Museum construction.

Senator BIBLE. On the Silver Hill facility, didn't you ask for money for the construction of new warehousing facilities for Silver Hill several years ago?

Dr. RIPLEY. Yes, sir, we did, Mr. Brooks.

Mr. BROOKS. We asked for \$125,000 last year, Mr. Chairman, and received it from the Congress. That work is underway now.

Since then we have found that we have to vacate by March 1975 a building that is now leased in Alexandria, the so-called building No. 3 on the waterfront. It is with this in mind that we request an additional building to substitute for the leased space which we have to vacate.

USE OF SILVER HILL FACILITY

Senator BIBLE. Now, tell me briefly, I know I have asked this question before in previous hearings, what do you do with these facilities? I think you told me you stored old elephants and poor old lions and you had it filled with all kinds of things, old aircraft that Mike Collins couldn't use, that are outdated. And, how far do you go on all of that? I mean, I don't know, do you store everything that the Smithsonian has ever received?

Dr. RIPLEY. No, sir, we don't. We do have a combination warehouse and restoration facility at Silver Hill now, essentially for planes, spacecraft, and engines. Many of these will be restored for display in the new museum.

Senator BIBLE. That was part of the reason you argued for a new museum, so you could get them out of Silver Hill and put them down here on Independence Avenue.

Dr. RIPLEY. Yes, sir, in order to get them on exhibition.

Senator BIBLE. But you told me about some old lions and old elephants or something, that were no longer popular so you got them out of there.

Dr. RIPLEY. Well, I don't recall that we have any old lions or old elephants in storage. We do have a big elephant on display.

Senator BIBLE. What do you have out there?

Dr. RIPLEY. We have a large variety of stored equipment, which we are hoping to be able to use. We inventory this and attempt to keep only the things that we believe we are going to need.

We also have a considerable amount of material waiting for the time when we might have the Armed Forces Outdoor Museum. I have mentioned the aircraft materials.

Senator BIBLE. I understand the aviation part of it.

Dr. RIPLEY. That is essentially what we have.

Senator BIBLE. But you don't have any Natural History Museum articles stored out there?

Dr. RIPLEY. We have marine mammals I believe stored there.

Senator BIBLE. Maybe that is what you told me, maybe it was a whale.

BUILDING NO. 3 IN ALEXANDRIA

Mr. CHALLINOR. In building No. 3 in Alexandria, the leased warehouse space, we have whale skulls, whale ribs, and whale vertebrae; this is the national marine mammal collection. As you know, there is a marine mammal bill that has come out. This is where the marine scientists get the information about what whales are what, where they live, what they look like, and how one differs from another.

Senator BIBLE. I just got a whale mixed up with an elephant.

Mr. CHALLINOR. It is whales, Mr. Chairman, not elephants.

Senator BIBLE. Can you get into that warehouse in Alexandria?

Mr. CHALLINOR. Yes, it is used regularly by scientists studying whale skeletons. There are probably a dozen scientists who are in and out of there regularly, taking measurements to determine how one whale differs from another, depending on where it was caught.

Senator BIBLE. Do you keep that warehouse under lock and key?

Mr. CHALLINOR. It is under lock and key. It is maintained by the General Services Administration. We lease the space from them, and we have to get them to unlock the building to let us in.

Dr. RIPLEY. And we will soon be losing it.

Senator BIBLE. I understood you to say that, and that is why you want to store the whales up in Silver Hill?

Mr. CHALLINOR. We are actually going to be moving whales back to the Mall and then move other things from the Mall to Silver Hill. The whales will have to move out of that building, and we are trying to find a place now, where they will be the most accessible. This will probably mean that we are going to have to squeeze them into the Museum of Natural History itself.

SMITHSONIAN MASTER PLAN

Senator BIBLE. Now, \$75,000 is requested to finance a Smithsonian facilities master plan. With all the construction the Smithsonian has, current and requested, isn't it a little late for such a master plan?

Dr. RIPLEY. Fifty of the Smithsonian's organizations are located on 21 sites throughout the Metropolitan Washington area. Space in the museum structures on the Mall and in central Washington is consumed completely and is basically nonexpandable. At the same time, growth in public programs for increasing millions of citizens, growth of more than 1 million valued specimens and artifacts yearly into the national collections, and growth in their use for national research and scholarship demand additional space opportunities. We can either seek temporary relief for one museum need at a time wherever such space can be found in or near the central city—or we can study and relate all the interdependent space needs for museum programs, collections management, study and support services so as to make certain that each new facility's development fits well within an overall and long-range system of space priorities and accommodation. It is for the purpose of assuring the latter that the requested \$75,000 for a master facilities systems plan is justified.

Senator BIBLE. Last fall the committee approved a shift of \$60,000 in restoration and renovation funds for the library of the Natural History Building. What is the status of that project?

Mr. BROOKS. The modifications to the library in the Natural History Building are in the design stage at present with the expectation that a contract will be awarded later this fiscal year.

Senator BIBLE. Are there replacement funds for the south side of the library area in the pending budget request?

Mr. BROOKS. No, not in the current request.

Senator BIBLE. Very well.

You may proceed, Dr. Ripley. Does that finish your presentation?

Dr. RIPLEY. That concludes my presentation, Mr. Chairman.

Senator BIBLE. Senator Stevens, do you have some questions?

Senator STEVENS. No, thank you.

CHESAPEAKE BAY CENTER FOR ENVIRONMENTAL STUDIES

Senator BIBLE. I have a whole series of questions here, many of which I think have already been answered, but I will ask the staff to go through them and submit them to you. I don't want to duplicate any more than I can help.

Tell me about Chesapeake Bay Center for Environmental Studies.

Dr. RIPLEY. I would like to ask Mr. Challinor to come up, if I may, since he is the Assistant Secretary for Science. Perhaps we could jointly tell you something about it.

Mr. CHALLINOR. Mr. Chairman, this is an assembly of more than 2,000 acres which the Smithsonian has purchased entirely with private funds. We were able to reconvert an old dairy farm, again with private funds, into an administration headquarters and laboratory. At the present time there are about 75 scientists working at the Chesapeake Bay Center on 20 different research projects.

LIST OF CHESAPEAKE BAY CENTER PROJECTS

Senator BIBLE. Supply for the record a representative list of those projects.

[The information follows:]

Research at Chesapeake Bay Center

The Rhode River Research Program, funded through the Chesapeake Research Consortium, Inc., is an ecosystem study—a group of scientists in various areas of expertise making a total intensive, continuing study which indicates the health of the land, fresh water, tidal area (marshlands), and ultimately the Bay.

The various projects are interrelated, one depending on the other for information which affects the way each is carried out—the scheduling of sampling, the intensity of sampling, and locations for sampling.

Representative scientific research projects within the program are:

1. Microbiological Studies of the Carbon Cycle in the Rhode River.
2. Nutrients studies on the Rhode River Ecosystem.
3. Net CO₂ Exchange in marsh grass communities.
4. Sediment and soil studies.
5. Studies of the physical hydrography of the Rhode River Estuary.
6. Nutrient Budgets and kinetics of plankton production.
7. The relative importance of biological and physical factors to the abundance of infauna in an estuarine environment.
8. The application of research data to management and planning issues affecting the sub-tributaries of the Chesapeake Bay.

These research projects together with others serve as indicators in understanding the particular environment in this Rhode River watershed. Since the area is tightly controlled, it gives the opportunity virtually to observe this 14 square miles under a microscope.

Data learned from this research is made available to those people and agencies making decisions on how the land and water will be used. In other words, the scientific research serves as input to the information transfer and education programs of the Center.

The scientific program at the Rhode River has been designed to produce the following synthesized information.

A. Nutrient Additions and Sewage Disposal

1. A statement of the range of biological effects resulting from various levels of nutrient loading and sewage additions to a subestuary of Chesapeake Bay using the Rhode River as a case study.
2. A statement of the probable effects on recreation and commercial uses of various levels of nutrient loading and sewage additions to Rhode River.
3. A statement relating various levels of population served to associated biological effects as a result of sewage and nutrient inputs from conventional secondary treatment, sewage lagoons, septic tanks, and spray irrigation.
4. A statement similar to 3 of relationships for effects on recreational and commercial uses.

5. An assessment of the practical relevance of 1 through 4 to formulation of growth policies and sewage disposal alternatives. The vehicle for this assessment will be a federal-state-county interagency evaluation team to be coordinated by the Anne Arundel County Office of Planning and Zoning.

6. An enumeration of a reduced set of biological and chemical parameters which can be used to characterize the relative "health" of an estuary.

E. Interactions Between Land-Use and the Estuary

1. A model which relates various land use patterns to the relative health of the estuary.

2. A specification of the relevance of these data for developing a rationale to preserve certain areas in a sub-tributary watershed as open as open space.

3. A specification of the relevance of these data for directing growth to low impact areas.

4. An assessment of the practical relevance of these data to formulation of growth policies for land use. The vehicle for this assessment is the same as that specified in A-5.

TOTAL ANNUAL COST TO MAINTAIN CENTER

Senator BIBLE. You say there are 75 scientists working there, are they all in the employ of the Federal Government?

Mr. CHALLINOR. No; Mr. Chairman, they are not. Perhaps one-third are Federal employees from the Smithsonian Institution and from the U.S. Geological Survey. The other two-thirds are from the University of Maryland and from Johns Hopkins University.

Senator BIBLE. What is our total cost annually to maintain the Chesapeake Bay Center for Environmental Studies?

Dr. RIPLEY. The base for fiscal 1973, Mr. Chairman, was \$140,000 and 10 positions.

CHESAPEAKE BAY CENTER

Senator BIBLE. On your Chesapeake Bay Center for Environmental Studies, you are asking for 5 new positions—a total of 15, according to your justifications. Didn't you testify last year that you were requesting a total of seven positions?

Mr. CHALLINOR. Prior to the fiscal year 1974 budget request we had shown the Chesapeake Bay Center as a component part of the Office of Environmental Sciences. The fiscal year 1973 budget justification for that office spoke to five persons in terms of employment at the time the budget was prepared. An additional two employees were requested. When the center was established as a separate entity in recognition of its growing use and value as a center for ecological studies, a staff of 10 was assigned to it from the total authorized staff of the Office of Environmental Sciences.

Senator BIBLE. What funding do you have for the Chesapeake Bay Center from the National Science Foundation? What funds do other groups participating in the center contribute?

Mr. CHALLINOR. In fiscal year 1973 the Chesapeake Bay Center for Environmental Studies has received funds in the amount of \$230,000 from the National Science Foundation. These funds pay only for salaries and equipment of researchers working on the Rhode River program—an interdisciplinary study of the Rhode River watershed-estuary system being conducted by the Chesapeake Research Consortium—and are not used to fund basic operating costs of the center. The center also has received \$25,000 from the Noble Foundation to study and develop methods of information transfer whereby (1) the environmental status of large ecosystems, such as Chesapeake Bay, can be understood by the general public and (2) citizens can be made aware of means of affecting, or participating in decisions affecting, such systems. In addition, a \$20,000 grant was provided by the National Aeronautics and Space Administration for a ground truth survey. This involves aerial photographs of the Rhode River watershed with color infrared and natural color films, and the subsequent interpretation of the pictures. In addition to providing the center with an inventory of vegetation in the watershed, this study, it is hoped, will produce techniques that can be applied anywhere in the world to identify vegetation in photographs taken by satellites.

Other groups participating at the center do not directly contribute funds for operation of the center, but do contribute their expertise, thereby increasing the effectiveness of the interdisciplinary research

and enlarging the pool of scientific talent. In addition, they have frequently contributed to the construction of various facilities, including a launching ramp for boats.

Senator BIBLE. Very well.

Dr. RIPLEY. The research here was essentially done under a consortium of the universities and the Virginia Institute of Marine Sciences. It is particularly interesting, in view of the continuing development of interests in monitoring and studying the environment, that this is probably the largest center in the United States for the study of estuaries. Estuaries are critical, of course, to life in the seas, and we have been particularly fortunate in obtaining this property because it does serve as an ideal center for estuarine studies.

Senator STEVENS. Could I inquire there?

Senator BIBLE. Senator Stevens.

DUPLICATION OF RESEARCH AT NOAA

Senator STEVENS. You are competing with the National Science Foundation in your Arizona facility; you are competing with NOAA on the Chesapeake facility.

What is the justification for the Smithsonian going into areas that we are funding so heavily in other areas? For instance, in NOAA we are funding estuarine studies. I am part of that subcommittee, too, and I would be glad to tell you how much money they are getting.

Why do we need additional facilities to duplicate what they are doing?

Dr. RIPLEY. We don't believe in duplication, Senator. I am sure Mr. Challinor can answer that.

Mr. CHALLINOR. Mr. Chairman, we don't feel this is a duplication at all. The NOAA studies are directed as part of the Department of Commerce toward specific mission oriented projects; such as how to grow oysters more quickly in a given estuary.

What we are concerned with, on a long-term basis, is learning what makes an estuary tick. For example, by monitoring continually 24 hours a day with automatic monitoring equipment, we found last June when they had the heavy rainstorm from Hurricane Agnes, that the salt content of the estuary went from about 10 parts per thousand down to about one or two parts per thousand.

This made the estuary virtually fresh water, which, in turn, killed a whole series of small clams that live in the mud. They were intolerant of water that fresh.

Now, we are monitoring what is happening, how quickly are these coming back, what eats these clams, and in some cases some of the clams are valuable commercially.

We often will get, as you know, changes caused by tankers spilling oil. Often these disasters are responsible for killing wild fowl, clams, and oysters. We know that in many cases, however, these massive die-offs are caused by other reasons. The only way we can learn this is by monitoring on a very long-term basis, 10 or 15 years, to understand what the natural die-offs of these organisms are.

And, in this particular case we found when the salinity went way down as a result of this heavy rain, this is what killed them.

We don't feel that we are at all in competition with NOAA, which is more concerned with its specific projects to get a definite answer that will have short economic returns.

Senator STEVENS. I wish you were right there. There is \$20 million in the budget for the Interior Department for the land use studies concerning estuaries. A coastal zone management bill was funded for NOAA in addition to their existing programs, and we have your Chesapeake Bay studies.

I think there are some other people involved; the Coast Guard is involved in some of the estuarine studies. We were trying to coordinate this and put particular portions of the executive branch in a position where they would be responsible to us.

Now we find that there is an even greater fractionalization after we created NOAA.

Mr. CHALLINOR. Mr. Senator, I may point out that in these studies of the coastal zone, there are members of the Interagency Committee that coordinate this sort of work. For example, the work that we are doing down there is directly related to that of the Corps of Engineers, and we have a contract with them to furnish information which they need regarding biological organisms in the bay that could be affected by various different kinds of pollution.

So we are indeed working with NOAA and the Corps of Engineers and the Environmental Protection Agency because of the special expertise that our scientists have.

I think that if you would ask the Corps of Engineers or NOAA, you would find that they would agree with us, that we are not in competition here at all.

Senator STEVENS. I am certain of that. All you had to do apparently, was to attach the word environment to something to get more money for it, and it is a matter of getting more Federal dollars.

POLICY DIRECTING SMITHSONIAN ACTIVITIES

Mr. Chairman, I don't know—maybe Dr. Ripley can tell us—what is the real policy direction the Smithsonian has as to the type of activities you are supposed to get into. Why are you in this Arizona thing, why are you in the Chesapeake project?

Dr. RIPLEY. We didn't start these last year, Senator Stevens, that is part of the problem. We started many of these projects before the turn of the century. For instance, the Smithsonian Secretary at the time, Secretary Baird, who was the second secretary of the Smithsonian, felt a strong need for the United States to know something about fish and fisheries for a very highly public service reason, namely that in due course the Americans would probably require ample supplies of fish and fish products as a part of their diet.

That was in 1871, and he started single-handedly something called the U.S. Fisheries Commission and served as the first year's Fish Commissioner in addition to his position as secretary of the Smithsonian.

As a result of those research efforts on his part, we built up the national collections in fish and marine biology which have continued to be the core resource ever since for the United States, for understanding the present distribution, migration and appearance of fish and marine organisms throughout the coastal waters of the United States and fresh waters, and abroad in large areas.

As a result of this work not only did we begin to document and serve as a kind of archive and data bank for the Nation on fisheries

and fish resources; but we did, wherever possible, develop small outlying experimental places where we began to observe what some of these changes in populations meant.

Now, carrying this a long step forward, in 1963 we inherited by bequest some land on the Chesapeake Bay and found that by a fortuitous circumstance it was a natural laboratory, the only natural laboratory near Washington, D.C., and 45 minutes away. Therefore it was a fine possible working ground to test right near Washington some of the observations that we were making over the years. This is quite different.

CENTRALIZATION OF OCEANIC-ATMOSPHERIC STUDIES

Senator STEVENS. As the chairman points out, I am not questioning the estuary, I am just questioning what happened to our great plan that followed the report prepared under the last administration for the centralization of oceanic atmospheric studies. We have created NOAA, we have a new administrative staff there, and we are giving them funds for the scientific research. But we find again that we still have things going on in other institutions such as yours. I support yours, I don't question it for direction; I just question why it is necessary for you to be involved in this when we now have NOAA. Why wasn't that transferred to NOAA?

Dr. RIPLEY. Well, these are essentially basic resources which have existed for a hundred years and are still recognized.

Senator STEVENS. We created NOAA in 1968.

Dr. RIPLEY. Well, under our charter, we have crossed services with a mixture of Federal resources and private resources. We are uniquely chartered by the U.S. Government to conduct private research, to accept private money to operate as a foundation within the Government, entirely distinct from the Government agency.

Senator STEVENS. They are authorized to take private matters and private lands, or are you in competition with the National Science Foundation in Arizona? Why can't they operate this new telescope if they have the other one just a few miles away and just a little smaller? Why are we financing competition between two agencies? I thought the National Science Foundation was handling that type of work for the Federal Government.

EXPLANATION OF WORK PROGRAM

Dr. RIPLEY. I would be happy to demonstrate that our work is not in competition, and I could supply a direct explanation of this for the record.

Senator BIBLE. That is what he is asking you.

Dr. RIPLEY. I would like to do that for the record, Senator.

Senator STEVENS. I think that you have to have an additional administrative staff to take care of that telescope, and we have already got administrative staffs taking care of the National Science Foundation telescope. That is why we created NOAA, so that we could get all these people into one place. It is not strictly a practical application or concept as far as their research is concerned, at least that is not the way they testified before our other committee.

I think if we are going to get this administrative staff where we can keep it as small as possible, we ought to combine these and have one agency responsible for oceans and atmospheres and another agency responsible for scientific research. And, I think your agency ought to

have a specific direction from Congress as to what you should be involved in.

You know, it is probably a very interesting thing, I don't doubt that, and a very worthwhile thing, but from an administrative point of view with the Federal Government's interest involved I think the Chesapeake environmental studies should be in NOAA.

Dr. RIPLEY. Well, we would be happy to supply what best we can to demonstrate the validity of our work, Senator, and we would be happy to be subject to the will of Congress if Congress chooses to transfer these activities of ours to some other agency or some administrative hierarchy or umbrella. We would be very happy to comply with the will of Congress.

Senator STEVENS. Thank you, I would be happy to review anything you would submit.

[The information follows:]

WORK BEING DONE BY THE SMITHSONIAN
ASTROPHYSICAL OBSERVATORY AND THE
CHESAPEAKE BAY CENTER

The Smithsonian Astrophysical Observatory (SAO) is a federal laboratory dedicated to expanding man's knowledge about the universe in which he lives. The SAO conducts a diversified program of astrophysical research, including gamma ray, cosmic ray, optical and infrared astronomy, and geophysics. It provides a specialized observing facility for the scientific staff of SAO at Mt. Hopkins.

The National Science Foundation provides about 90% of the support for the Kitt Peak National Observatory, but of course does not operate it. It is run by Associated Universities for Research in Astronomy (AURA). Kitt Peak is a general observatory largely geared for researchers in small schools who cannot afford big instruments.

It is necessary to have a dedicated observatory, such as Mt. Hopkins, because it provides facilities for special topics that are not available at a general observatory such as Kitt Peak. At Mt. Hopkins, special instrumentation can be mounted at the telescope indefinitely, permitting precision adjustments that would have to be repeated each time the instruments are moved in order to accommodate a turnover of observers. The SAO scientists do not need wide field photography, therefore, the telescope at Mt. Hopkins uses a spherical mirror instead of the far more costly parabolic mirror used at Kitt Peak.

We believe that the separate operations of the two observatories provides a healthy balance of scientific potentials and objectives that should be continued. The national interest is best served by a combination of research at academic laboratories and in federal agencies.

In 1972, the National Academy of Sciences published a report of the Astronomy Survey Committee entitled "Astronomy and Astrophysics for the 1970's". The Committee defined eleven programs of highest priority, the second in order of importance is "An optical program that will vastly increase the efficiency of existing telescopes by use of modern electronic auxiliaries and at the same time create the new large telescopes necessary for research at the limits of the known universe." The construction of the multiple mirror telescope at Mt. Hopkins, sponsored by the Smithsonian and the University of Arizona, is the most recent step in this direction.

There is interaction between the scientists of SAO and other scientists by way of regular meetings and exchange of publications to keep up with the progress of research in the field of astronomy and astrophysics in order to avoid as little duplication as possible. The SAO scientists are called on by other organizations in the field, because of their special competence, to provide help when needed.

The Chesapeake Bay Center consists of a 2,000 acre area purchased with private funds. The Center was established for the purpose of creating scientific and educational programs in the environmental sciences. The programs are designed to help understand and interpret the full range of environmental issues which impinge on a geographical area, from the functioning of a watershed-estuary ecosystem to the social and political structure of communities affected by these issues. The Smithsonian integrates aquatic with terrestrial research and utilizes the vast resources of scientists within the Institution, while the National Oceanic and Atmospheric Administration is directed to work in oceans and atmosphere.

Evolving from this research program is one of the major thrusts of the Bay Center, environmental education at all levels, from grammar school children to adults. This program is in keeping with the Smithsonian Institution's intent to develop the Chesapeake Bay Center as a living museum of man's contemporary and past activities, particularly those that are related to the use of land and water. In addition, a public information program has been conducted at the Bay Center and intensive interactions with citizens' organizations and public agencies in the Bay region have been established to maintain an on-going program of public involvement in environmental issues.

There is also interaction between the scientists of the Bay Center and other scientists by way of regular meetings and exchange of publications to keep up with the progress of research in order to avoid as little duplication as possible. Because of its special facilities, the Chesapeake Bay Center has been used by other organizations, such as the U. S. Geological Survey, Johns Hopkins University, University of Maryland, and other Federal and private agencies, to carry out the research necessary to understand the complexities of the Bay's environment.

TRANSFER OF MT. HOPKINS OBSERVATORY ACTIVITIES

Senator BIBLE. I think we ought to review it.

I was just going to ask you two questions. No. 1, would you have an objection to transferring the activities at the Mt. Hopkins Observatory over to NSF?

Dr. RIPLEY. No; we have none at all.

Senator BIBLE. That answers that question.

Now, the second question is, do you have any objection to transferring the Chesapeake Estuary over to NOAA?

Dr. RIPLEY. No; I am sure we have none at all.

Senator BIBLE. Maybe that works out some kind of an answer. I think we ought to explore it further. I am like Senator Stevens—when you sit on the Appropriations Committee, and particularly now that environment is the cry of the day, I think every single budget hearing on which I happen to be privileged to sit and preside, there is always x number of dollars, usually between 10 and 15 percent devoted to environment. And that goes across the board; Army, Navy, Military, the Nurses Corp, the Wacs, the Waves, and every other agency. It just goes completely across the spectrum, and there certainly must be some way it can be simplified so that we cut out some of the fat and avoid this terrific overlapping.

Dr. RIPLEY. May I say, Mr. Chairman, I heartily concur with your statement. From our point of view I think that what you find the Smithsonian doing is inheriting the whirlwind.

Senator BIBLE. You may have, that is why we are trying to help you. There is a tornado down in Texas and they are trying to get that put out. Maybe we can get the whirlwind settled down a little for you.

Dr. RIPLEY. I have always felt that one of the problems for the Smithsonian was having been there first.

Senator BIBLE. That may be, but then times do change you know. We have created enough agencies. I am not faulting the Smithsonian.

Senator STEVENS. Neither am I.

Senator BIBLE. I think it is one of the great institutions of Government, but we may have loaded you with too much because it looks like you are a pretty busy man taking care of these elephants, mammals, and space. You cover a pretty broad range and you do it effectively, but I just don't want to broaden it out too far where you have other agencies that appear to do the same thing.

We will await your justification.

Dr. RIPLEY. We would be very happy to furnish an explanation. We somehow seem to have arrived at this extraordinary dilemma where we have been quietly doing things for many years that a lot of other people now seem, in the eyes of the appropriations process, to be wanting to do.

Senator BIBLE. Well, it appears that they are doing it anyway.

Let us take a look at your justification.

NATIONAL MUSEUM ACT

Now I just find another one that somewhat puzzles me, and I think you were here first in the National Museum Act, and I know we are going to have a very irrepressible and dynamic Nancy Hanks

before us in a short time, on the Endowment for the Arts, telling us about her need for x number of dollars for the museums.

You transferred \$200,000, if I understand that correctly, from this budget over to the Arts and Humanities, and I don't know whether that is an overlap or not.

What would she do that you do not do? Or what do you do that she does not do?

Dr. RIPLEY. I would like to ask Mr. Perrot, our Assistant Secretary for Museum Programs, to respond to that.

Senator BIBLE. I think we went through this last year; didn't we?

Dr. RIPLEY. Yes, sir. Mr. Perrot is new, I would like to introduce him to the chairman. He was formerly the Director of the Museum of Glass at Corning, N. Y., and has come to us, much to our pleasure, on the retirement of Mr. Frank Taylor, the former Director of Museum Programs, to administer our museum programs. Here again you find that museums are "on the up and up," Mr. Chairman.

Senator BIBLE. What do you mean on the up and up?

Dr. RIPLEY. They are more popular than they used to be; they are more in demand. Over the years the demand for our services has increased to the point where in 1965 we asked the Congress under the intent of the National Museum Act, to appropriate a small amount of money to us so that we could service these demands from the museum constituency. Across the Nation there are some 6,000 or so museums which increasingly wish to ask for information and services.

They are in need of assistance to solve essentially technical questions having to do with training, aspects of exhibits, and aspects of servicing and functioning museums. So, it was in this context that we asked for funds under the National Museum Act.

ARTS AND HUMANITIES TRANSFERS

That act was reauthorized 3 years ago, in 1970, and the authorizing committees put in the stipulation that we should each year donate of whatever funds we have, \$100,000 each to the National Endowment for the Arts and to the National Endowment for the Humanities. The committees felt that these endowments also to some extent were going to come into the museum area and that they, too, should have a small quota of funds within their budgets to grant for museum purposes. That is the origin and history of the transfers.

Senator BIBLE. Why do you ask for it in your budget? Why don't they ask for it in their budget? As I understand it, you receive the \$200,000 and then you transfer it to the Arts and Humanities. It seems to me that is a cumbersome way to do it.

Dr. RIPLEY. We agree.

Senator BIBLE. You are entirely too agreeable today. I just wanted to get a little more background on that. It puzzled me why it has been done this way.

Dr. RIPLEY. Unfortunately, it is a requirement of the authorization language.

Senator BIBLE. I am not questioning the authorization. It just doesn't seem to me that that is a good way to run a railroad; but we will take a look at that.

What are the transfers to the Arts and Humanities used for?

Mr. PERROT. I am informed by the administrators of the art programs at the National Endowment for the Arts and at the National Endowment for the Humanities that the \$100,000 contribution from the National Museum Act is used primarily for a fellowship program intended to allow graduate students and museum personnel to carry out specialized studies which will lead to their being able to provide more refined services to the museums where they are or will be employed, and for various consultative services to museums.

CONSOLIDATION OF MUSEUM ASSISTANCE

Senator BIBLE. Is there any duplication of museum assistance here? I know the arts endowment has a substantial museum program.

Mr. PERROT. The National Museum Act was funded at the same time that the National Endowment for the Arts and the National Endowment for the Humanities became concerned with the problems of America's museums. It was not clear then whether there might not be some advantage in having more than one organization involved in developing programs for the support of museums. However, from the outset, the closest relationship developed between the Endowments and the administration of the National Museum Act.

There has been no duplication, and in the last 2½ years the guidelines under which the act is administered have been increasingly focused toward fulfilling the great need for enhancing the competence of museum personnel, insure the funding of programs at the graduate level in museology, conservation, museum administration, and provide to museum personnel around the country ready access to up-to-date information, through the sponsorship of seminars and workshops held in cooperation with the American Association of Museums and the Association for State and Local History. These have been concerned with the introduction of new museum techniques.

The Advisory Council of the National Museum Act (members of which donate their services) consists entirely of professionals drawn from various sections of the country and from various disciplines. They have access to a unique font of consultants in the research, curatorial, exhibit, and interpretive staffs of the Smithsonian. Furthermore, these funds are administered under extremely economic conditions, and through the close relationship that we have with the administrators of the endowments, we can be confident again in stating that there is no duplication.

MUSEUM GRANTS

With your permission, I would like to provide a listing of grants made under this act in fiscal year 1972 and to date in fiscal year 1973. [The information follows:]

National Museum Act Program
Projects Funded FY 1972

A Program of Consultant Services to Small History Museums; American Association for State and Local History, Nashville, Tennessee, William Alderson, Director; \$27,170

A Proposal for the preparation of a book on "The Interpretation of Historic House Museums;" American Association for State and Local History, Nashville, Tennessee; \$12,000

A Program of Training Workshops for Historical Museums; American Association for State and Local History, Nashville, Tennessee, William Alderson, Director; \$36,820

Seminar at Williamsburg; Colonial Williamsburg, Williamsburg, Virginia, James R. Short, Colonial Williamsburg Foundation; \$10,500

Mobile Training Laboratory for Museum Personnel; Kansas State Historical Museum, Topeka, Kansas; \$24,683

Publication: Guide to Historic Preservation, Historical Agencies, and Museum Practices: A Selective Bibliography; New York State Historical Association; \$23,925

Proposal to Develop a Curriculum in Museology; American Association of Museums, Washington, D. C., Kyran McGrath, Director; \$27,100

Three Workshops in Museum Administration; American Association of Museums, Washington, D. C.; \$34,845

"Museum Education Research;" Milwaukee Art Center and the University of Wisconsin, Milwaukee; \$10,000

U.S.-ICOM (Support Grant); U.S. National Committee of ICOM, Washington, D. C., Charles Cunningham, Chairman; \$20,000

A Request for Matching Funds to Permit Twenty Summer Work Projects in 1972; New York State Historical Association, Cooperstown Graduate Programs, Cooperstown, New York; \$12,750

Assistance for a Museum Studies Program; University of Delaware, Newark, Delaware; \$15,750

Systematic Biology: The Development of a National Program on Resources and Resource-Management; National Museum of Natural History, Washington, D. C.; \$7,200

Support for Curator, A Journal for the Museum Profession; American Museum of Natural History, New York, New York; \$8,300

Extension Services in Museum Training; Department of Art, Fisk University, Nashville, Tennessee; \$10,000

National Museum Act/American Association of Museum-Day at the Regional Museum Conferences; American Association of Museums, Washington, D. C. \$19,700

Museum Apprentice Program; Maine State Museum, Augusta, Maine; \$7,300

The Development of an International Exchange Program for Museum Professionals; American Association of Museums, Washington, D. C. \$18,125.

Internship Program in Conservation; Cooperstown Graduate Program, New York State Historical Association, Cooperstown, New York; \$23,000

A Seminar on the Scientific Approach to the Preservation of Paper Artifacts; The International Institute for Conservation; \$7,000 (\$5,000 was granted from FY 1972, with an additional \$2,000 from FY 1973)

Projects Funded FY 1973

South Dakota Museologist Program; W. H. Over Dakota Museum, University of South Dakota; \$23,700

Museum Administration Training Seminar; Texas State Historical Survey Committee; \$2,012

One-Day Museum Training Workshops; Texas State Historical Survey Committee; \$3,500

U.S.-ICOM; U.S. National Committee of ICOM, Washington, D. C.; \$22,500

Support for Research of AAM 1973 Museum and Financial Salary Survey; American Association of Museums; \$7,350

Professional Assistance to Museums and Historical Agencies in the Merrimack Valley; Merrimack Valley Textile Museum; \$5,112

Microscopy for Conservators: A Workshop; Washington Region Conservation Guild; \$2,500

Publication: The Craft Documentation Field Report; Madison County Historical Society, Oneida, New York; \$18,030

Internships for Conservation Program; Institute of Fine Arts, New York; \$20,000

Museum Data Bank Coordinating Committee; University Museum, University of Arkansas; \$77,893

Polyethylene Glycol Consolidation of Cracked Wooden Ethnographic Artifacts: A Research Project in Conservation Techniques; Indiana University Museum; \$3,076

Museum Training Project; Museum of Cultural History, University of California, Los Angeles; \$13,824

A Proposal for the Development of a Low Cost Tape Cassette Training Program for Historical Museums and Society Personnel; American Association for State and Local History; \$39,485

AAM/NMA DAY: 1973; American Association of Museums; \$19,700

Publication: Guide to Historic Preservation Historical Agencies, and Museum Practices: A Selective Bibliography; New York State Historical Association; \$27,060

A Special Session at the Regional Conferences on Urban Issues and Urban Museums; American Museum of Natural History; \$5,000

Internships for Conservation Program; Conservation Center of the Institute of Fine Arts, New York, New York; \$32,000

Scientific Research on the Conservation of Flood-Damaged Books in a Museum Library; The Corning Museum of Glass, Corning, New York; \$38,500

Seminar for Historical Administrators; National Trust for Historic Preservation, Washington, D. C.; \$10,500

Specialized Seminars for History Museum Personnel; American Association for State and Local History, Nashville, Tennessee; \$44,552

Consultant Services to History Museums; American Association for State and Local History, Nashville, Tennessee; \$23,420

Museum Training Project; Museum of Cultural History, Los Angeles, California; \$13,824

Museum Training; Missouri State Council on the Arts, St. Louis, Mo.; \$3,000

Museum Training; Sheldon Jackson College, Sitka, Alaska; \$2,190

Internship Support; Cooperstown Graduate Programs, Cooperstown, New York; \$31,000

NEED FOR INCREASED MUSEUM FUNDS

Senator BIBLE. How would you use the additional \$100,000 for museum assistance?

Mr. PERROT. We propose, if the Congress approved the increase of \$100,000 requested for fiscal 1974, to apply this sum for the support of meritorious requests which we have been unable to respond to in the past due to budget pressures. As in the past, these are concerned with professional enhancement, training programs, with emphasis on those specifically devoted to training in museum techniques for the minorities.

Senator BIBLE. Last year, at the committee's request, you reported for the record that four separate Federal programs were supplying \$7.6 million to museums. Wouldn't it be more efficient to locate this all under one administrative roof?

Mr. PERROT. The needs are diverse, and the evaluation of these needs and of the methods to meet them require varied backgrounds and different administrative approaches. Those persons who could evaluate a conservation training program, or oversee its administration, might not be equally able to do so for an exhibition program. The present diversity provides variety of approaches, prevents overloading and consequent bureaucratic stolidity, is acceptable to the profession, and is economically run. In short, I see clarity of definition emerging increasingly sharply from the present diversity.

For the interest of the committee, we are supplying additional data on the kind of projects which, it is expected, the National Museum Act will support in fiscal year 1974.

[The information follows:]

NATIONAL MUSEUM ACT PROGRAM

EXAMPLES OF THE TYPES OF GRANTS ALREADY SUBMITTED FOR FUNDING IN FISCAL YEAR 1974

Title: To Conduct Three 3-Day Seminars For In-Service Museum Personnel 1973-74 (amended proposal)

To: American Association of Museums, Washington, D.C. Amount Recommended: \$15,860

Title: "Microfiche" Programme (To make available the vast museum documentation which is present in the archives of the International Council of Museums)

To: ICOM, Maison de l'UNESCO, Rue Miollis, Paris XV^e. Amount recommended: \$22,000

Title: Support for Publication of Museum Trustees Handbook (handbook on the code and duties of museum trustees and the problems of staff relationships with boards)

To: American Association of Museums, Washington, D.C. Amount Recommended: \$18,610

DISPOSITION OF USED EXHIBITS

Senator BIBLE. I will next go to construction, and I will call on—

Senator STEVENS. May I ask Dr. Ripley one question?

Senator BIBLE. Certainly.

Senator STEVENS. Dr. Ripley, because the situation has come up in our own home State. What do you do with exhibits that have, as far as you are concerned, outlived their usefulness. How do you dispose of them?

Dr. RIPLEY. Well, it is hard to answer in general, Senator, it depends on what the material is and what aspect of value it may have. If it is old potsherds and they have been definitely researched to death

and there seems to be no further use for even maintaining them in the inventory, they may simply be disposed of by any of several approved methods of disposition.

Senator STEVENS. Do you notify other museums of their availability?

Dr. RIPLEY. Yes, we do.

Senator STEVENS. That was my main question.

Dr. RIPLEY. If we had some beautifully preserved extra totem poles, for example, we would be glad to give them to the appropriate place in a State where they could use them for exhibition, or we would be glad to respond to a request from such an institution as to how to preserve totem poles. For example, they are collected, I believe, and kept out on a wharf under some kind of a shed where it may well be that they are weathering badly also. We do know about that kind of thing, and we make it a point in each particular instance to attempt to service the request as best we can.

Senator STEVENS. The question came up, Mr. Chairman, as to how these things are disposed of that no longer have national significance but may have great regional significance. I wanted to know if you notify these places of their availability before you might dispose of them by sale.

Dr. RIPLEY. We do, absolutely.

Senator STEVENS. Thank you very much.

NATIONAL AIR AND SPACE MUSEUM

Senator BIBLE. We might have Michael Collins, the Director of the National Air and Space Museum, come forward to our line.

Just briefly, Mike, the situation of the National Air and Space Museum: as I understand it, you are asking for \$27 million in this budget to carry your construction forward at the Space Museum, is that a correct statement?

Mr. COLLINS. Yes, it is, sir.

Senator BIBLE. \$27 million is the amount? Spell out for the record why you asked for that much this year, in view of the fact that you are not going to be operational until July 4, 1976.

The Congress has spoken on the need of the Space and Air Museum, and we are very happy that such a distinguished astronaut was chosen to be the director. I think there is a great need in this area, and it is going forward, so there doesn't need to be any justification on that score.

I am just interested in your timetable and why you asked for the \$27 million.

LIQUIDATION OF OUTSTANDING CONTRACT AUTHORITY

Mr. COLLINS. I would be glad to, Mr. Chairman. The \$27 million for which we are asking would liquidate in toto the outstanding contract authority, and it is my understanding that this is a conventional bookkeeping action.

We do not need \$27 million in order to pay our bills during the fiscal 1974. To pay our bills during fiscal 1974, the GSA computer estimates that we are going to need \$17 million and the request for \$27 million is simply a one time final request to clear all outstanding contract authority.

You will recall that in fiscal 1973 we were given an appropriation of \$13 million and authority to write additional contracts for \$27 million, for a total of \$40 million so our request this year is simply to liquidate the balance of contract authority.

Senator BIBLE. Will there be overrides on this particular contract?

Mr. COLLINS. No, sir.

Senator BIBLE. You will keep within the \$40 million?

DISTRIBUTION OF PROJECT COSTS

Mr. COLLINS. Yes, \$41.9 million actually, because to the \$40 million in construction funds must be added \$1.9 million, which was appropriated in fiscal 1972 for architect and engineering planning work. So, the total cost of the project is \$41.9 million.

The construction of the building is well underway, on schedule, and below budgeted cost. Contracts have been awarded for 76 percent of the construction work. Because of the uncomplicated building design and a new streamlined construction manager system of control, construction should continue on schedule within budget. This means we will not come back for construction funds beyond the \$27 million.

I have the breakdown on how it looks to us from a cash flow point of view.

Senator BIBLE. That can be furnished for the record.

Mr. COLLINS. All right, sir, we would be happy to do that.

[The information follows:]

Construction

Estimated Appropriation Requirements to meet Contractor Payments:	<i>Millions</i>
Fiscal year 1972-----	\$1.9
Fiscal year 1973-----	13.0
Fiscal year 1974-----	17.0
Fiscal year 1975-----	7.0
Fiscal year 1976-----	3.0
	<hr/> 41.9

VISITATION FIGURES AT CONSTITUTION AVENUE SITE

Senator BIBLE. It is an obligation that obviously we are going to have to face, and whether we gain anything by slipping it here because of our budget problems, I frankly do not know at this stage.

What type of visitation do you have where you are located now on Constitution Avenue? Do you have any type of a count?

Mr. COLLINS. Yes; we do. We do keep records of our visitors. Presently we are in two buildings. In one we see about one and a half million people a year; in the other, about two and a half million people a year. You add these counts together and you get four million visits. We believe we actually have somewhat less than that in terms of individual visitors because some people visit both buildings and we don't have any way of keeping book on that.

Senator BIBLE. I am sure. I know in my own office and particularly among the younger people who come to Washington, that is always one of the first requests, to go to the Smithsonian and see the space and air exhibits.

Mr. COLLINS. We are estimating that in the first year we are open in our new building we will see 6-million visitors. Personally I think that is a very conservative estimate. I think it will be a little over that.

Senator BIBLE. Do you have any idea how much additional it is going to cost you to furnish your building when it is done?

Mr. COLLINS. I would say 20 percent of the total building costs, which would be an additional \$8 million to construct the exhibits which we need.

Senator BIBLE. Is that on the drawing board, planned out pretty well now?

Mr. COLLINS. Yes, it is, Mr. Chairman. We have 26 major halls in the new building.

Senator BIBLE. You have 26 what?

Mr. COLLINS. We will have 26 major exhibition halls, and each of those has now been assigned a subject matter. Within the limits of our staff and funding, we are planning in more and more detail what we are going to do with these halls, selecting the artifacts, writing scripts for the exhibits, and planning the purchase of ancillary equipment such as movie projectors, speakers, exhibit cases, and all the other necessary paraphernalia for putting together a first class exhibit in each hall.

MARINE EXHIBITS

Senator BIBLE. While we are talking about space. Dr. Ripley, what do we have—I should know but I don't—in the Smithsonian that shows you the wonders of the undersea space, the archaic Jacques Cousteau submarine, the wonders of the depth? Could we find that down in your shop?

Dr. RIPLEY. We have a Marine Mammals Hall, which exhibits models and sketches, and outlines of the major whales and also has exhibits of undersea organisms and vertebrates, and so on, some of them from considerable depth. We do not have any living exhibits of porpoises or any aquarium-like devices either there or at the zoo.

In the History and Technology Museum we have a hall of underwater archeology which shows something about the history of man's descent into the depths. And of course we have a laboratory which is privately funded in Florida, where we conduct marine biological work using submarines and underwater devices.

So, we do this, but we are very deficient I would say, Mr. Chairman, in exhibiting the marine sciences. On the Mall in general we have simply these two halls, one of marine species and the other of underwater archeology.

Senator BIBLE. At one time we had Mike Kirwin's fishbowl aquarium. That was at the end of Haines Point, I believe, and it ran into some problems. I suppose that has been slipped completely out of existence, hasn't it?

STAFFING REQUIREMENTS OF NATIONAL AIR AND SPACE MUSEUM

Dr. RIPLEY. Yes, that is completely on the shelf.

Senator BIBLE. Now, how many people do you have at the National Air and Space Museum today, Mr. Collins?

Mr. COLLINS. We have 56 employees right now, sir.

Senator BIBLE. That will go to what figure when the new museum is built? I think maybe you testified to that earlier; maybe Dr. Ripley did.

Dr. RIPLEY. We are requesting this year, Mr. Chairman, an additional 20 positions and \$765,000 for program development.

Senator BIBLE. How many positions did you add for fiscal year 1973?

Dr. CHALLINOR. In 1973 we added 12 new full-time permanent positions to the National Air and Space Museum for a total of 56.

Senator BIBLE. Did you have any OMB limitation on personnel for the National Air and Space Museum?

Dr. CHALLINOR. No; there was no limitation on National Air and Space Museum positions. The Smithsonian Institution was under an OMB ceiling but the National Air and Space Museum was authorized to fill its entire complement of 56 full-time permanent positions.

Senator BIBLE. For the Space Museum?

Dr. RIPLEY. Yes, sir. This includes 3 new scientific-technical staff, 16 additional curatorial, mechanical, and administrative staff members, and one more position for the planetarium-spacearium.

Senator BIBLE. Please discuss how the total requested 76 positions would be employed in preparing for the opening of the museum.

Mr. COLLINS. The job that the NASM is faced with over the next 3 years is twofold. First, we must construct a building to be opened to the public in July 1976. Of equal importance, when the new building opens it must contain enough inspiring, educational, and entertaining exhibits and presentations to serve as a feature attraction on the Mall during the Bicentennial year. These exhibits must be conceived, scripted, designed, constructed, and tested. The air and space artifacts which will appear in the exhibits must be, in most instances, restored and refurbished. Special projection techniques and shows must be developed for the Spacearium and ultrahigh fidelity screen theater in the auditorium. To accomplish all of this it will be necessary to augment the present staff of 56 by 20 positions in fiscal year 1974. Eight of these positions will be at the professional curatorial level with the incumbents responsible for the development of exhibits in a variety of air and space specialties. Two of the new positions will be filled by clerical support personnel. There is a requirement for one planetarium technician trainee, and nine lower grade museum aides to work with our mechanics performing preservation and restoration work on air and space artifacts.

Senator BIBLE. How much will that be increased when you are fully operational? What will be your total staff when you are fully operational July 4, 1976, if you meet your timetable?

Mr. COLLINS. We will have 105 employees, Mr. Chairman.

Senator BIBLE. All right. I have no further questions.

Senator Stevens?

Senator STEVENS. I am very pleased to see it moving along, Mr. Chairman.

NATIONAL ZOOLOGICAL PARK

Senator BIBLE. Very well. Thank you very much, Mr. Collins.

I have only one further witness that I plan on querying, and that is Dr. Reed.

Doctor, do you want to come forward and tell me about the zoo?

Dr. REED. I have the master plan for the redevelopment of the zoo. May I present this to you?

Senator BIBLE. Certainly.

First let's get this in proper perspective. Goodness knows you need construction at the zoo, I don't have to be convinced of that. I don't think anyone who has visited there has to be convinced of it. I think

it is a great national asset, and I think we have neglected it for far too long.

Would you run those visitation figures by me again?

VISITATION AT THE ZOO

Dr. REED. Visitation at the National Zoological Park at the present time by estimation is between 5 and 6 million. However, this is an estimation. The statistical methods have been the same for many years, so we know that percentage-wise we are increasing, particularly since April 20 of last year when the pandas went on display. Our last statistical analysis of that has given us about a 50-percent increase. Shortly after April 20 we will run an analysis to see what we think the influence of the pandas has been upon us for a full year.

It has been tremendous. For instance, February is supposed to be a pretty dull sort of a month, but we had days of 30,000 and 40,000 visitors in the zoo standing around in the cold. They seemed to be enjoying themselves but it was certainly crowded.

Senator BIBLE. The figures on visitations at the zoo are estimated at best; aren't they?

Dr. REED. They are estimates at best, and this is why I have to be very careful because you can question our methodology. This is why I keep stressing percentages, because if we are using the same method and if we are off, either high or low, it is off by the same method. So, the percentages I think are the important thing. We have had a steady percentage increase in visitors; more than steady, we have had a violent jump since the pandas have arrived. We have had over the past 10 years a steady increase in the number of visitors percentage-wise.

Senator BIBLE. Now, you have presented us a master plan report, which I will take a look at at my leisure. And, the thing that keeps intriguing me about the National Zoological Park—with the acres that you have available, is there enough room to take care of the plan that you have outlined?

PARKING FACILITIES

Dr. REED. The plan that we have outlined is tailored to the room that we have. Very frankly, no zoo man in the world is ever going to admit that he has enough space. You know, we want all the space in the world for our animals. But we are, within our zoo, going to be able to have a very fine exhibition for education, for science, and for the entertainment of the public. For instance, of the zoo's 165 acres, about 12 acres will be returned to the beneficial use of animals and people by rearranging the parking situation that we have at the zoo.

Incidentally, there will be a fee charged to the public for parking their cars, which will be used to defray in some part the expenses of building the new parking facilities.

Senator BIBLE. Do you charge for parking now?

Dr. REED. No, sir, we do not. Admission to the zoo will remain free. A person will not be charged for coming in, he will be charged for parking his car, which money will be used to help defray the expenses of building the new parking facility.

Senator BIBLE. I don't know how that is going to work out as a practical matter. It seems to me that if a family comes to the zoo and

you charge them to park, they are going to be mad at those animals before they start the tour.

Dr. REED. Actually, I would have to disagree with you on that because I believe that the experience at other zoos throughout the country where they have recently put on either an admission charge or a parking charge has not been bad. People are used to paying for the special services of parking their cars.

We are still giving them the very best show in town, I believe, with no offense to the rest of the Smithsonian. It is my personal belief that we have the better show.

Senator BIBLE. I understand yours a lot better than I do some of those other performances.

Dr. REED. But the people at other zoos, in other parts of the country, have not experienced resistance to a parking charge. Also, we will not be charging until about 9 o'clock in the morning so that if you do not wish to pay, you just come earlier. This serves us by spreading out our visitor load over the day. This would be very beneficial for the zoo.

Senator BIBLE. Now, give me the figures again that you are asking for in this budget.

ZOO CONSTRUCTION

Dr. REED. \$2.85 million for planning, construction, and repairs in this particular budget.

Senator BIBLE. What are you going to do with that?

Dr. REED. First of all, I would like to say that this master plan has been approved by the reviewing commissions: the National Capital Planning Commission and the Commission of Fine Arts. I have the full plan here. If you want a complete set of documents, I will be pleased to submit them.

Senator BIBLE. No, I think these will tell the story sufficiently for the use and study of the committee.

LION AND TIGER EXHIBITS

Dr. REED. We hope that it does. We have our approvals.

The first thing we are asking for is \$3 million for the construction of the lion and tiger exhibit. We will remove the 1890 facilities that we have and replace them with an open large area for these magnificent cats where we can exhibit them in family groups, for example, a pride of up to 12 lions.

The tigers will be in two smaller units because they are not quite the sociable animal. We will be exhibiting family groups of tigers, emphasizing the white tiger.

So, this will be our construction effort. We hope the exhibit will be completed by 1976, if everything moves as it is planned.

STATUS OF REPROGRAMING

Senator BIBLE. Last October the committee approved a reprogramming of some \$1 million for flood damage repairs and for remodeling the monkey and puma houses. What is the status of these projects?

Dr. REED. The monkey and puma houses are in final working drawing-construction specification stage and are 50 percent complete.

These projects are covered by the reprograming of \$869,000. Supplies and equipment lost due to the flood have been replaced and essential site repairs have been carried out with the assistance of the reprogramed \$33,000.

Senator BIBLE. Are funds requested in your 1974 estimates to replace any of the reprogramed moneys? I recall you used funds originally intended for reptile house and elephant house repairs.

Dr. REED. No. The elephant and reptile house repairs are deferred.

Senator BIBLE. Your 1974 construction program, which is a substantial increase, is geared to your master plan? Do you consider it an initiation of the plan?

Dr. REED. Yes, very definitely.

LION HILL DETAILS

Senator BIBLE. The major portion of your construction request is for the lion hill. Please summarize the project for the committee.

Dr. REED. The lion hill project calls for the removal of the existing inadequate and hazardous lion house constructed in 1890. It will be replaced by an open three sectional outdoor display, of lions and tigers, separated from the viewing public by water moats. These outdoor areas will have heated concrete pads, grottoes, and suitable landscaping to provide as natural a habitat as possible for the animals. Underground will be located the animal dens and about the perimeter of the oval exhibit will be animal department offices, keeper facilities, and storage space. Many of these functions are currently accommodated in trailers because of the critical shortage of office and storage space in the zoo.

Senator BIBLE. The lion facility was apparently planned before completion of the master plan. Is it in harmony with the master plan?

Dr. REED. The lion hill project was developed schematically along with all other zoo exhibits. When the master plan was completed and approved, the lion hill project was initiated as the first major implementation of the master plan. It most assuredly is in harmony with the master plan.

PRIVATE CONTRIBUTIONS

Senator BIBLE. Were you successful in your efforts, mentioned last year, to secure private support for this construction?

Dr. REED. We have not been successful in securing private support for this facility.

Senator BIBLE. Are there any private dollars in your other zoo construction?

Dr. REED. The only group in a position to make a significant contribution in private dollars is the Friends of the National Zoo (FONZ), an auxiliary group consisting of public spirited animal lovers who have recently completed a souvenir-gift shop and acquired the trackless train and parking concessions. When these functions will have been operational for a period of years, FONZ will be in a position to significantly contribute to the animal collection and the zoo's ambitious educational program.

Senator BIBLE. Please continue.

PLANNING FUTURE CONSTRUCTION

Dr. REED. We are asking for \$620,000 for planning future construction. Of this total, \$300,000 is for design of tentative plans for visitor's parking, which will return 12 acres now in parking lots to the beneficial use of the animals and the people. This will be tentative plans for the parking structure.

We will then go into construction plans, and hopefully construction, in the future years. We are asking for \$100,000 planning money for the primate exhibit. This will be for the large apes, the gorillas and the orangutans. This is downcreek from where the lower zoo bridge is. One of the things we want to do is to develop this presently unused area. The visitor walkway will pass by some very steep hillside which will eventually be used for goats and sheep. The old rock quarry is where we will have a very fine exhibit of Gelada baboons which are mountain animals from Ethiopia. We practically have the home for them right there in the old rock quarry with only minor modification.

In addition to these animal exhibits we want to position ourselves to be able to get the trackless train within a block of the subway station entrance at Calvert and Connecticut Avenues. Otherwise the citizens have to walk 2,000 feet from the subway station to the Connecticut Avenue entrance at the zoo. Even though it is called the zoo station, it is 2,000 feet away from the zoo entrance so, we will be in a position to accommodate our visiting public with transportation.

We are asking for \$100,000 for planning the elephant house outside yards and a minimum of work on the inside. The elephant house will be taken care of in two phases. First the outside yards. You have all seen the yards; you know that they are small areas, they are slightly muddy—terrible in rainy weather. We will have much larger space, three times the space for the animals, and we will have much more space for the zoo visitors. So, we will have the large outside yards.

There will be minor fixing up of the insides, including hydraulic powered doors. These doors, to keep an elephant or rhinoceros in, weigh several thousand pounds. To move those doors around manually is quite difficult. This will be, we hope, ready by 1976.

There is a request for \$60,000 for planning the bird house, outside cages, the duck ponds, and all other outside exhibits in the bird area; and \$60,000 for planning a new human facility for feeding; that is, a little restaurant for people, to replace the one that we now have. This is not the one that is going to be on Connecticut Avenue, this is the one on Harvard Street end. We will have a human feeding facility at either end of the zoo. We would like to build the Harvard Street one and have it ready for quick hot dogs, hamburgers, quick sandwiches, quick food service cafeteria-style for the public. The present building will be used as a visitor orientation and educational center.

NATIONAL ZOOLOGICAL PARK

Senator BIBLE. \$70,000 of your requested \$150,000 increase for the National Zoological Park is for design and fabrication of zoo exhibits. How would this fit into pending zoo improvements under your new master plan?

Dr. REED. The \$70,000 for exhibits refers to interpretive and educational exhibits, not to animal enclosures and their decoration. We

have lagged far behind other major zoos in development of such educational materials which make the animal exhibits meaningful. In the master plan improvements, spaces will be provided for such exhibits. However, as in a museum, these interpretive exhibits are not built in as part of the structure and they change as the collection changes. At present, several such exhibits are being prepared and installed, some in parts of the zoo that were modernized several years ago, some in the old sections. Later this year we will be installing interpretive exhibits in the Panda House; we have temporary exhibit panels there now.

RENOVATION AND REPAIR

We are asking for \$230,000 for renovation and repair at the zoo. This is a continuation of such things as insulation of the steam lines, heat exchanges at the various buildings, roof repairs, sidewalk repairs, and those necessary items just to keep the 165 acres physically usable by their millions of visitors and to keep the animals in the cages.

COST OF FEEDING THE ANIMALS

Senator BIBLE. What does it cost you per day to feed the animals?

Dr. REED. To feed the animals?

Senator BIBLE. What is your grocery bill?

Dr. REED. Our grocery bill runs about \$130,000 a year, I don't have it broken down by day. I have it broken down by animals.

Senator BIBLE. How much does it cost you to feed a Panda per day?

Dr. REED. Five dollars and seventy five cents. That is not bad—elephants cost more.

Senator BIBLE. What is your most expensive animal?

Dr. REED. Ridiculously enough, the kiwis per size body weight. They are eating earth worms which we have to ship in from areas that do not use any pesticides. We have to constantly check on this, so we are feeding the two of them about \$6 worth of earthworms. Per size body-weight, this comes out about the most expensive animal to feed. This is because of—I hate to use the word environmental—problems that we are into. I can't feed the DDT-loaded earthworms to my kiwis, so we have to take very special and expensive precautions.

Senator BIBLE. Are they worth that much?

Dr. REED. Certainly they are. They are definitely one of the most unusual, one of the most primitive, one of the most interesting birds there are. Now, Dr. Ripley may think that I am a kiwi man.

Dr. RIPLEY. They are a state gift from New Zealand, so we are very much obligated to keep them in fine shape.

Dr. REED. Incidentally, I think there are only about five other zoos outside New Zealand that have them.

FUTURE CONSTRUCTION PLANS

Senator STEVENS. Mr. Chairman, might I inquire what is the downstream commitment on your construction program? Now, you told us what it is this year and as I look through the plan you have got a series of years going into 1985. What is the downstream commitment when you start this?

Dr. REED. The downstream commitment as to money?

Senator STEVENS. What is the total cost of this project?

Dr. REED. Well, the total cost of this project is variously estimated, and a lot of it has to do with projected price increases over the number of years it is going to take. You know, if you gave me all the money right now it would cost you half as much as if it takes 25 years.

Originally, 12 years ago, we said it was going to cost about \$17 million. We are thinking now, with the rough schematic plans we have which are not the final design, probably \$65 or \$70 million. We hope we can cut this back; we hope OMB and the Congress will support us by giving us large, annual amounts of money so we can build faster and the zoo won't cost as much.

Senator BIBLE. In testimony last year, didn't you give us the \$40 million figure?

Dr. REED. We gave a \$40-million figure last year based on what we thought the plans would be at that time at the current construction price. Now, if I were to give you the same price now, if I would say what it is going to cost to build everything now, it would probably be in the \$40-\$50 million range. But I think right at the present moment, I am not going to make a projection saying 25 years from now I am going to build you this zoo for \$40 million because in the past 10 years I have been so brutally beaten down by this, or beat up by this cost of construction, 10 percent a year, 1 percent a month.

Senator BIBLE. I guess everybody else in this Nation has whether they are in Government or private.

Dr. REED. That is true, indeed. This is a sad fact of life. Just think if 10 years ago we had started this, we were supposed to have completed it in 10 years, it would have been done for about \$17 million and I would have been able to retire now, or else I would be able to enjoy my animals.

Senator BIBLE. I understand what you are saying, if you had \$40 million in your hand today you probably could get it constructed for that figure, but you have to build in unknown escalations and you can't see the future any more than anybody else can.

Dr. REED. Another thing we have to remember is that I can't do everything at once. You know, I can't build the new monkey area until I build the bears because the bears will move over; I can't build the bears until I move the dogs, and so on. It is a game of checkers that we are playing and we have to keep it operational.

In 1976 we hope to have the lion house built, but in the meantime anything else that we do we must do on the periphery because I can't have major construction going on in the middle of the zoo in 1976.

Senator BIBLE. I think we understand that.

Dr. REED. I mean I would dearly love to for my animals' sake, but I realize that there are people coming and we are going to have a celebration and had better be prepared for it. Otherwise it will be very embarrassing.

Senator BIBLE. How many employees do you have at the zoo today?

Dr. REED. We have an authorized level of 286; I believe we have about 248 or 249 on board. We are recruiting now.

Senator BIBLE. I have no further questions. Senator Stevens.

Senator STEVENS. I have none. Thank you very much.

Senator BIBLE. Thank you very much, Dr. Reed, it is good to see you.

Unless Senator Stevens has some questions, I think these two exhibits here will be enough for me.

Dr. REED. I do hope that you will come out to see us. It is getting to be spring and the Pandas and all the animals are in good shape.

Senator BIBLE. I don't know who gets more kick out of it, the monkeys or me. It is a tossup.

Now, Dr. Ripley, do you have others that you want to have add any particular bit of information or be subjected to any kind of questioning?

Dr. RIPLEY. No, Mr. Chairman, I do not.

Senator BIBLE. Senator Stevens, do you have any questions of anyone on this very illustrious—

NATIONAL GALLERY OF ART

Senator STEVENS. Well, I have just one.

Tell me again, why don't you have that control over the National Gallery of Art? As I see it is listed on the organizational chart, there is a dotted line right there.

Dr. RIPLEY. It is technically a bureau of the Smithsonian and was so incorporated in the original Act of 1937. The act stipulated that the Board of Trustees of the Gallery are in effect independent. For example, they prepare their own budget without reference to the official Smithsonian budget. They come to Congress for Federal appropriations during the annual cycle just as we do. But, they are incorporated as a bureau of the Smithsonian, and I sit on the Board as a statutory trustee along with the Chief Justice, who is our Chancellor. So that there are in effect two representatives of the Smithsonian on the board.

Senator STEVENS. Is there an inner working of the National Gallery of Art with your art museums?

Dr. RIPLEY. There is, at the operating level, discussion about technical details and so on. On the general policy level it is provided only by the attendance of myself and the Chief Justice at the meetings.

Senator STEVENS. Here again we have the situation where they have an entirely separate administrative staff duplicating I take it, some of yours, in terms of the responsibilities that you have to take care of, to preserve and renovate the art objects that you have in the Smithsonian.

Dr. RIPLEY. Well, of course, not really in the sense that they administer a large building which is their own and granted to the Smithsonian for their purposes, and they have to administer that building just as we have to administer each one of our museums in a very largely separate capacity. I wouldn't say it was essentially an overlapping thing, I would say it is essentially complementary.

Senator STEVENS. Thank you very much.

ADDED DUTIES FROM BENEFACITOR DONATIONS

Senator BIBLE. I would like to ask two more questions.

No. 1, it occurred to me as I heard you discussing the national galleries with Senator Stevens that some additional information would be helpful to the committee; I know it would be interesting to me if it can be done without too much work. I suppose a lot of these added duties that have been foisted on the Smithsonian over the years

come about because some benefactor left x number of dollars or x acres of land to the Smithsonian to administer. Do you have any tabulation on that—I know you do.

Dr. RIPLEY. Yes, we do. This is very interesting and I think it would be interesting to the committee. We would be very happy to supply you with that.

[The information follows:]

Gifts to the Smithsonian Institution and their Effect

The Smithsonian's accomplishments and contributions to public education over the past 127 years can be attributed in large measure to the generosity of public spirited Americans and foreign citizens. This began with the bequest of James Smithson, an Englishman, in 1829 of over \$500,000 to found "...at Washington, under the name of the Smithsonian Institution, an establishment for the increase and diffusion of knowledge among men...." This gift was accepted by the Congress. Since then, the Smithsonian, under the Board of Regents, has been the recipient of many transfers, gifts, and bequests of property, collections, and, almost entirely for restricted purposes, funds.

The organic Act of 1846, as amended, contains a number of references to the acceptance of such items, including the following:

"Whenever suitable arrangements can be made from time to time for their reception, all objects of art and of foreign and curious research, and all objects of natural history, plants, and geological and mineralogical specimens belonging to the United States, which may be in the city of Washington, in whosoever custody they may be, shall be delivered to such persons as may be authorized by the Board of Regents to receive them, and shall be so arranged and classified in the building erected for the institution as best to facilitate the examination and study of them; and whenever new specimens in natural history, geology, or mineralogy are obtained for the museum of the institution, by exchanges of duplicate specimens, which the Regents may in their discretion make, or by donation, which they may receive, or otherwise, the Regents shall cause such new specimens to be appropriately classed and arranged." (20 U.S.C. 50)

"The Secretary of the Treasury is authorized and directed to receive into the Treasury, on the same terms as the original bequest of James Smithson, such sums as the Regents may, from time to time, see fit to deposit, not exceeding, with the original bequest, the sum of \$1,000,000. This shall not operate as a limitation on the power of the Smithsonian Institution to receive money or other property by gift, bequest, or devise, and to hold and dispose of the same in promotion of the purposes thereof." (20 U.S.C. 55)

"All collections of rocks, minerals, soils, fossils, and objects of natural history, archaeology, and ethnology, made by the Coast and Geodetic Survey, the Geological Survey, or by any other parties for the Government of the United States, when no longer needed for investigations in progress shall be deposited in the National Museum." (20 U.S.C. 59)

In the late 1850's the Board of Regents and Secretary Joseph Henry established a principle essential to the understanding of the Smithsonian and its subsequent growth. They held that the limited income from the Smithson fund should be reserved for increase and diffusion of knowledge of a worldwide benefit and not spent on caretaking or maintenance of museum property and collections. If, however, the Congress wished the Smithsonian to take over the public responsibility for a national collection, and in effect, a national museum, in accord with the 1846 Act, then the Smithsonian should do this for the people of the United States with appropriated funds. In this spirit, the Patent Office collection (models of inventions, a section known as the American Museum of Arts, and also some natural history collections, notably those from the expeditions of Captain Charles Wilkes to South America, Antarctica, and the Pacific) was accepted in 1858 and the first Federal appropriation of \$4,000 was made to the Institution.

Tens of thousands of gifts have been received by the Institution since its establishment. These have ranged from a few dollars each from a large number of persons to support a project, such as the current contributions for the Carrousel, to individual large gifts amounting to many million of dollars. Each is important to the Institution because each shows that the Smithsonian enjoys the support and confidence of the public we are trying to serve. Since it is impossible to list all such gifts, a few of the most significant over the years have been chosen to illustrate the diversity and continuing nature of public support of our work.

1891 - Gift of Thomas G. Hodgkins of \$200,000 for increase and diffusion of more exact knowledge in regard to the nature and properties of atmospheric air.

1903 - Bequest of Harriet Lane Johnson of her art collection

1906 - Gift of Charles Lang Freer of his collection of Oriental art and \$1,000,000 for a building to house it. Mr. Freer later gave another \$ 1,600,000.

1912 - Gift of the Star-Spangled Banner by Eben Appleton, grandson of the Commander of Fort McHenry, now a central attraction in the National Museum of History and Technology.

1929 - Gift of the John Gellatly art collection housed in the National Collection of Fine Arts.

1937 - Gift of Andrew Mellon of his art collection and \$15,000,000 for a building for the National Gallery of Art.

1948 - Bequest of Orville Wright of the Original Wright Brothers Flyer which will be a principal display in the new National Air and Space Museum Building.

1958 - Gift of Harry Winston of the Hope Diamond.

1964 - Gift by David Bruce of Belmont, an 18th Century estate at Elkridge, Maryland, now serving as a conference center.

1964 - Bequest by Robert Lee Forreest of \$1,718,000 for unrestricted use by the Smithsonian.

1966 - Bequest by Joseph W. Sprague of \$2,000,000 for advancement of physical sciences.

1966 - 1972 - Gifts of Joseph H. Hirshhorn of a collection of paintings and sculpture and \$1,000,000 towards construction of a museum.

1967 - Gift of the Josiah K. Lilly collection of gold coins.

1968 - Gift from Admiral and Mrs. Dewitt C. Ramsey of \$571,000 for increase and diffusion of knowledge pertaining to U. S. Naval Flight history.

1969 - Gift by S. C. Johnson & Sons of S. C. Johnson art collection now housed in the National Collection of Fine Arts.

1970 - 1971 - Anonymous gift of \$7,050,000 for marine research.

There is no question that the addition of these public trusts creates an additional level of responsibility, workload, and, in some cases, funding requirements which cause the need for additional appropriations for facilities, administration, maintenance, or protection and display of collections. We believe that these expenditures are fully justified and well-deserving of taxpayer support for the following reasons.

- Although many donated items in the National Collections could not be assigned a monetary worth that would take into consideration their value as national treasures (as for instance the Star-Spangled Banner) we believe it safe to say that the total value of the some 70 million items in the collection, almost all obtained by gift or transfer, far surpasses the public funds spent on their care, exhibition, or study.
- In the period 1962-1972, there have been almost 200 million public visits to our museums, galleries, and Zoo. These visitors have been entertained and given greater knowledge and appreciation of their natural and social environment and their cultural and technological achievements and heritage. Much of this is only because these visitors have been given the opportunity to see great national treasures and important historical artifacts provided from private sources.
- We owe it to future generations of visitors, students, and scholars to acquire and protect the documentation of their history.

HYPOTHETICAL BEQUEATHMENT

Senator BIBLE. I think it would throw a light on some of these questions we are asking because I don't know how you work it out. Say a very wealthy man left the Smithsonian \$1,000,000 to get into the field of astronomy and science and observatories. Whether that can be dedicated to somebody else or not, maybe terms of the will lapse, I don't know. Why don't you furnish that for the record? I don't want to question you on it now. I just got to thinking about it.

HIRSHHORN MUSEUM CONSTRUCTION CLAIMS

One other question: We constantly read about the Hirshhorn construction problem in the press. We have communications on it as to construction claims and differences in construction time, whether it is being built right or isn't being built right, and I recognize at this time there may very well be little that you can say conclusively. The matter of the construction of Hirshhorn, as I understand it, is under review by the GSA Board of Contract Appeals; is that correct?

Dr. RIPLEY. That is correct.

Senator BIBLE. Do you have any general statement on the Hirshhorn Museum? We asked you questions about it before with some type of controversy somewhere around a year ago.

Dr. RIPLEY. Thank you, Mr. Chairman. I can say that we are watching this very closely. Claims have been filed in connection with the construction of the museum. The project, as you know, is being built under contract where all of the contractual actions are and have been under the General Services Administration. The total of these claims so far appears to us to exceed the authorizational limit set for this project by the Congress.

Senator BIBLE. What was that limit?

Dr. RIPLEY. \$15 million. However, so far the claims represent demands by the contractor only for additional funds, and such claims commonly are filed in connection with any construction project whether Federal or private.

We have no knowledge of the fate of these claims in themselves; none of them arise out of any increase in the scope of this project beyond what has been specifically authorized by the Congress. So these claims are presently being processed by the GSA. No claim has been adjudicated at this time.

And of course, we can only sit at this time on the sidelines and watch what is happening in that sense. We hope that favorable rulings will be made by the Board of Contract Appeals so that no awards will be made against this project in excess of our authorization.

I have no way of knowing beyond that. We are watching with the usual dismay that any potential client of a building faces when he can't get in and things are being held up. Just as if we were a householder, we hate to see the contractor wrangling with the architect or things of this sort.

NUMBER OF CHANGE ORDERS

Senator BIBLE. Have there been any great number of change orders from the original contract letting?

Dr. RIPLEY. I do not believe so; I think that any claims arising have arisen out of a complex of difficulties inherent in a sophisticated modern construction and the usual kinds of slow-downs that occur with strikes

and problems that the contractor himself has to face when he takes on a contract.

And as you know, I am sure, Mr. Chairman, as any householder knows, very often the contractor himself can't get all the labor he needs at the right time.

So, I imagine that this is a negotiable kind of situation similar to one that the Government itself must be having in hundreds of cases over the country.

Senator BIBLE. I realize that sometimes in building a structure, whether a private individual or corporation, or a Federal agency or any governmental agency, if you make substantial change orders from the original specifications, you certainly can anticipate increasing costs almost invariably. But this is not that type of a dispute?

Dr. RIPLEY. There have been some small changes involved in trying to cut down the design to fit the available money. Once we had firmly said to ourselves that we would buy only what \$15 million authorized could buy, then as time went on in the process of the construction, we had to modify the sculpture garden for example, and cut down its total dimensions. We had to modify the access to the sculpture garden going under the street level.

These things of course were essentially change orders in order to try to fit within our budget.

Senator BIBLE. They were change orders to cut down rather than to increase?

Dr. RIPLEY. Yes, sir. We knew what our ceiling of money was, and we have done everything we could to minimize the escalation in wages and costs and to keep within that ceiling of money.

Senator BIBLE. Well, it seems to me that Hirshhorn has been beset by all kinds of problems since its inception. I certainly hope that you are over your last problem.

FILM ON EXCAVATIONS IN THE NILE

It was indicated to me that you had a 10-minute film that you were to show on the history of the Nile, or the excavation of the Nile. That was a great picture, that "History of the Nile" shown earlier.

Dr. RIPLEY. This was made from the books by Alan Morehead on the excavations of the Nile.

Senator BIBLE. Very well. Now, you were to show us some pictures, and this is on the excavation of the Nile?

Dr. RIPLEY. If the committee would like, I would be very happy to do so.

Senator BIBLE. I always like to see motion pictures. Now, everybody is invited to look at these films if they want to see what they are doing with the Nile.

Dr. RIPLEY. While we are setting up the projector, may we show you some items from our collections?

Senator BIBLE. Yes; last year you brought me some opals from Lincoln County, Nev., and you brought me some gold pieces from the Comstock Lode, then you took them all back. But I hope you have some valuable specimens with you today from the State of Alaska. I am sure you probably have.

SUBCOMMITTEE RECESS

[Whereupon, at 12:15 p.m., Monday, March 12, the subcommittee was recessed, to reconvene at 10 a.m., Tuesday, March 13.]



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